Transferring the improvisational potential of drawing to a contemporary sculptural practice

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Table of contents

List Of Illustrations

Appendix

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Abstract

This text and the body of artwork it describes are the outcomes of a practice-based research project exploring the question: “What are the implications and opportunities of transferring the improvisational potential of drawing* to a contemporary sculptural practice, using Diana Cooper and Hew Locke’s practices (2000-2004) as precedents?”-This is the final form of the question, which evolved over time in response to the findings of this research. The original question was: “Is it possible to create a sculptural practice that is, or could be conceived as, drawing in three-dimensions?” which was inspired by the desire to improve my sculptural practice, with transferred qualities of drawing.

The thesis also discusses the approach to the research, and the methods utilized. It includes a discussion that focuses on practice-based methodologies, with the specific approach of art as research, or research for art and design. (Frayling, C. 1998). This approach involves the performative perspective, (Borgdorff ,H. 2006), whilst utilizing Schön’s reflection in and on action. (Schön, D 1983). Using this type of process produced a journey of knowledge production, which was based on an experimental cycle of practice-based learning. The experimental cycle produced the conditions for a direct engagement with the creative process, whilst utilizing

tacit* knowledge*, to improve my practice. The improvement was informed, through the questions this process raised, whilst utilizing the evaluative technique of interpretation and performative analysis. These techniques allowed for the development of my practice within the studio environment, which was important due to the need for it to work within this environment.

This thesis also details the journey undertaken during the research, and its conclusions. The investigation explores the work of contemporary artists who explore the boundaries between sculpture* and drawing*. The research identified the artists Diana Cooper and Hew Locke, whose practices are at the forefront of the expansion of contemporary drawing into the three-dimensional realm. Through a critical review of Hew Locke and Diana Cooper's practices I was able to identify a number of creative strategies*, which could improve my practice. These strategies were addition* and mutation*, which produces the potential for improvisation*, whilst removing the restraints associated with pre-determined forms. Removing these restraints gave my practice the opportunity to evolve through an improvisational approach, which utilizes a flexible, adaptive moulding* technique. This practice, and the sculptures it produces, are the embodiment of the findings of the research. These sculptures were presented, at the end of the research, in an exhibition at De Montfort University.

References

BORGDORFF, H. (2006) *The debate on research in the arts* [Online] Available from: http:www.rhul.ac.uk/English/documents/pdf/phrphd/borgdorffdebateonresearchinthearts [Accessed on 12/03/13]

FRAYLING, C. (1998) In: HARRILD, A. *A transcript of research seminar on practice-based doctorates in creative & performing arts & design.* Surrey Institute of Art & Design. (14/07/98)

SCHÖN, D. (1983) *The Reflective Practitioner: How professionals think in action.* England. Ashgate Publishing.

1:Introduction

This research is based on the question, "what are the implications, and opportunities, of transferring the improvisational potential of drawing, to a contemporary sculptural practice, using Diana Cooper and Hew Locke practice's, (2000-2004), as precedents?" Using this question as a springboard for the research allowed for my practice to evolve over the time, whilst constructing sculptures using improvisational strategies. With Cooper and Locke's practices as precedents, I aim to demonstrate how my practice was improved by the transference of the improvisational strategies of addition and mutation. These strategies developed the potential for improvisation within my practice giving it the ability to adapt during the creative process. These allowed the development of an approach that generates artwork without the need to pre-determine form. This approach utilizes a moulding technique, which was improved by the improvisational strategies. These strategies, and the artwork that they generated, are the embodiment of the findings of this research, which were displayed in an exhibition at De Montfort University in 2012.

The works, in the final exhibition, are extremely different from what my practice used to produce. At the end of my Masters in Fine Art, I used extruded clay to construct sculptural landscapes. A mincing machine was used to extrude the clay, to create masses composed of linear* form*. These masses were formed when

the clay dropped from the mouth of the machine, with minimal artistic intervention. These works generated the idea of developing an artistic strategy, which had no pre-determined plan for the forms it produces. As the clay, linear forms were reminiscent of the drawn line, and as drawing has the potential to be improvised, there was also the potential for this to occur in my sculptural practice. If this linear form could be conceived as the drawn line, this raised the question of what other processes, especially those involved in improvisation, could be transferred from drawing, to my practice. This also raised the question that if it is possible to transfer strategies from drawing, is it possible to draw in three-dimensions? The idea behind this question generated the initial research question which was, "is it possible to create a sculptural practice that is, or could be conceived as, drawing in three-dimensions?" Throughout the research this question evolved to eventually concentrate on the transference of improvisational strategies from Diana Cooper and Hew Locke's practices. These artists were chosen due to use of improvisational strategies in their expansion of drawing into the three-dimensional realm. Their expansion of drawing improved of my practice, by using strategies from their practices.

At the start of this research the translation of different strategies of drawing, to the sculptural practice, was explored. Both of these practices are legitimatized as separate mediums in the art world by institutions like galleries, museums and art schools. There are many different definitions for each practice, which can be extremely varied, and there is also the problem that, as Fay commented, "many

contemporary organizations concerned with drawing resist a definition, preferring to acknowledge drawing as a fluid and evolving medium and subject"[1]. Deanna Petherbridge's definition of drawing is, "drawing is the primal means of symbolic communication. It predates and embraces writing, and functions as a tool of conceptualization parallel with language".[2] The problem with this definition is that this symbolic communication, which exists in drawing, could also be used to describe painting or sculpture. This is common with modern definitions because modern contemporary drawing resists definition. Fay wrote about this saying, "drawing is not a single defined entity that has remained unchanged. It is an activity that is continuously mutable, constantly adapting to new forms, emerging technologies and conceptual attitudes".[3] Although this is the position of many academics, such as Deanna Petherbridge and Anna Lovatt, drawings mutability is not infinite. It still consists of marks*, which tend to exist on surfaces, although these have been adapted to the needs of different practitioners. Due to this, drawing has expanded beyond many conventional definitions but it was helpful to use a conventional definition for this research as a base line to work from. The definition that was used was by Rosand describing drawing as, "the fundamental pictorial act. To make a mark, or trace a single line upon a surface, (which),

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[1] FAY, B. (2013) *What is Drawing?* [Online] Irish Museum of Modern Art. Available from: http://www.academia.edu/2954158/What_is_Drawing_Irish_Museum_Modern_Art-Essay [Accessed on 11/01/14]

[2] PETHERBRIDGE, D. (1991) *The Primacy Of Drawing. An Artists View* (exhibition catalogue, A National Touring Exhibition, from the South Bank Centre) (1991) p.7

[3] See 1

immediately transforms that surface, energizes its neutrality; the graphic imposition turns the actual flatness of the ground into virtual space, translates its material reality into the fiction of the imagination".[4] Rosand's definition was useful to this research because it described drawing as an art object, and also an activity. It also separated drawing from sculpture due to its acknowledgement that it tends to exists on a surface. Using a conventional definition for drawing created a base line to work from and a similar definition was chosen for sculpture for the same reason. This was, "on a fundamental level, sculpture can be defined as a three-dimensional object, a volumetric form possessing measurable height, width and depth and occupying real space".[5] Using these definitions separated both practices, from one another, by stating that the main difference between these media is the art object they produce. (drawing exists on a surface, which provides the two-dimensional support for the marks, and sculpture is a three-dimensional object).

The need to categorize practices, for this research, was necessary, but in Fine Art today, the definitions are more fluid. As Anna Lovatt wrote, in her essay "Drawing across and between media", "media specificity is supposed to be a thing

[4] ROSAND, D. (2002) *Drawing Acts: Studies in Graphic Expression.* Cambridge. Cambridge University Press. p1

[5] FINKELSTION, C. SCULPTURE [Online] Available from: http: //www.sculpture.org/documents/curriculum/essay.html [Accessed on 50/03/13]

of the past".[6] Although this is the case, there is still pressure from many institutions to categorize artworks into each media (such as exhibitions and galleries specializing in different media). So although the boundaries between media are more open, there is still a drive in the art world to categorize them, so in this research, each media was categorized as a separate field.

The original goal of the investigation was to develop a sculptural practice that translated certain strategies of drawing practice, to sculpture. Although this translation of strategies from drawing to sculpture was the basis of the investigation the main focus was the improvisational strategies of drawing. An investigation of other artists' work showed that elements of drawing have been incorporated into sculpture, before. One of these was Alexander Calder, who produced 'drawing's in space'[7] in the 1920's. (At a similar period of time Pablo Picasso also created constructivist work that fits with this approach). Calder used the wire as linear form to construct non-volumetric sculptures. Lovatt described these works as, "a kind of sculpture that demarcated space without filling it, devising a means of sculpting volume without mass."[8] This enabled the line to be

[6] LOVATT, A. (2012) *Drawing across and between media.* Reprinted in *Drawing Sculpture.* London. Drawing Room. p5

[7] LEIGHT, M. *Drawing in space: Alexander Calder: The Paris years, 1926-1933.* [Online] Available from:http: //www.cityreview/calder.html. [Accessed on 23/05/11]

[8] LOVATT, A. (2012) *Drawing across and between media.* Reprinted in *Drawing Sculpture.* London. Drawing Room. p5

liberated from the page, so it could engage with three-dimensional space. Clement Greenberg commented on this potential when he wrote, "the constructor-sculptor can literally draw in the air with a single strand of wire that supports nothing but itself."[9] With this history impacting on the subject, as well as many other contributions by different artists, there was a problem with the original research question. Art history proved that drawing in three-dimensions was possible. These art historical findings, and my own research, allowed for the evolution of the research into an exploration of transferring strategies from drawing to sculpture. The main focus of this transference was drawings potential for improvisation because it involves strategies , which would allow for a fluid approach to form generation. It allows for a piece to evolve through an adaptive process, which can utilize tacit knowledge, where the end result is not pre-determined. Although there will always be a certain amount of planning such as the piece will be a sculpture and what material it is made from. Due to the use of this tacit knowledge, the improvisation was not based on spontaneous responses; instead it used a more considered approach to the responsive alterations during the creative process. A considered improvisational approach is different from ones using spontaneity that relies upon instant impulsive decisions, which give no time for reflection. This improvisational approach still allowed for adaptability and reaction, but these were based on a considered reflection, rather than impulse.

The main question, in turn, generated a set of sub-questions, which were,

[9] GREENBURG, C. (1971) *"The New Sculpture"*, in Greenburg, *Art & Culture.* Boston. Beacon Press. p145

1. What potential strategies of drawing could be transferred to the three-dimensional realm of sculpture? (This *sub*-question was generated early in the investigation before the potential of improvisation became of primary importance).
2. Is it possible to transfer the strategies associated with the 'freedom of hand', which allows for improvisation in drawing, to a sculptural practice?

Note: *Sub*-questions 1 and 2 evolved to become *Sub*-question 3

3. What process, or technique, would allow improvisational strategies, which are exemplified by Locke and Cooper's expanded notion of drawing*, to be replicated in a sculptural practice?
4. What materials could be used in a process, or technique, which allows for improvisational strategies, in a sculptural practice?
5. What technique, and associated material, could construct a three-dimensional environment, which allows the mark to exist in isolation?
6. Is it possible to develop a moulding technique, which allows for responsive, improvisational alterations?
7. As the moulding technique produces improvised three-dimensional mark-forms, are the inclusions* necessary? (The inclusions were materials that were embedded inside the resin)
8. As the inclusions are unnecessary, what other materials could be used, in conjunction with the moulding technique?

The research methodology , which this investigation followed, was practice-based. It used an approach, which Frayling described as, "art as research, or, research for art and design"[10]. It allowed for the use of Bordorff's, "performative perspective"[11], whilst utilizing Schön's theory of, "reflection in and on action"[12], as tools for evaluation. This evaluation involved the processes of interpretation, and performative analysis, or as Schön described it 'reflection in action', (Schön, D. 1983), which produced a cyclical strategy for knowledge generation. These strategies allowed for practical experimentation, whilst utilizing tacit knowledge, within the studio environment.

The structure of this thesis charts the theoretical and practical dimensions of this research. It includes a literature review that discusses the theoretical background of the research. It also contains a chapter about practice-based methodologies that also details the exact set of methods used. The practical element of this research is recorded and discussed in the research chapter, whilst the last chapter contains the conclusions that were generated by the research. It

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[10] FRAYLING, C. (1998) In: HARRILD, A. *A transcript of research seminar on practice-based doctorates in creative & performing art & design,* Surrey Institute of Art and Design (14/07/98)

[11] BORGDORFF, H. (2006) *The debate on research in the arts* [Online] Available from:http: //www.rhul.ac.uk/English/documents/pdf/phrphd/borgdorffdebateonresearchinthearts.pdf [Accessed on 12/03/13]

[12] SCHON, D. (1983) *The Reflective Practitioner: How Professionals Think In Action.* 1st ed, PART 1, CHAP 2, p29. ASHGATE PUBLISHING/ ENGLAND

also contains a set of photos in an appendix that documents the sculptures as shown in the final exhibition.

References

MARSHALL, R and Sawdon, p (2012) *Hyper-drawing: Beyond the Lines of Contemporary Art.* London. I.B. Taurus

SCHÖN, D (1983) *The Reflective Practitioner: How Professionals Think In Action.* 1st. Ashgate Publishing/ England

2: Literature Review

2:1 The initial literature review, and the focusing of the research

This research began with the idea that the act of drawing allowed for a certain amount of freedom to improvise and this would be an interesting improvement to my sculptural practice, if it could be transferred. It could produce a strategy of constructing sculptures without a pre-determined form, similar to the potential embodied in the blank sheet of paper, in drawing. To research this possibility an investigation into how contemporary drawing is perceived in Fine Art today, was needed.

An initial review of the subject of contemporary drawing showed an explosion fueled by organizations such as the 'Drawing Centre' in New York and the gallery 'The Drawing Room' in London. This renewed interest, has had the effect of more artists using strategies of drawing in their work. Works by these artists have challenged the very definition of what a drawing can be. More recently theorists have used terms such as "*sub"*, *"supra"**[13], or, "*hyper*- drawings*"[14] to categorize

[13] MARSHALL, R and SAWDON, P. (2012) *Hyperdrawing. Beyond the lines of contemporary art.* London. I. B. Taurus. p viii

where a work exists within drawing practice. The category of the practice of *sub*-drawing is defined as being 'under, below, beneath' the *sub*-boundary of drawing. This *sub*-boundary categorizes drawing practice as a performative discipline that visualizes thought processes through the representation of experience, not appearance or perception. (Marshall, R and Sawdon, P. 2012). The term '*supra*-drawing' is sometimes used to describe the category of *'hyper*-drawing'. The category of *'hyper*-drawing' includes drawings that are 'above, over, beyond' the limits, or 'outside, excess, exaggeration' of the *sub*-boundary of drawing practice. These drawings encompass the *sub*-boundaries and the space between them. They are ambiguous in terms of their definition that means they are categorized in terms of what they are not, rather than what they are. (Marshall, R and Sawdon, P. 2012). The importance of this ambiguous nature to this research is that it allows for works by "artists who exploit the ability to break boundaries between dimensions".[15] These drawings are produced by practices that expand drawing into the post-medium realm. It is the work of these artists that break the boundaries between two and three-dimensions that the research concentrated on. This was because these artists utilized strategies that could potentially improve my sculptural practice.

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[14] MARSHALL, R and SAWDON, P. *Hyper-drawing* [Online] Available from: http://www.dspace.iboro.ac.uk [Accessed on 16/04/13]

[15] LOVATT, A. (2012) *Drawing across and between media.* Reprinted in *Drawing Sculpture.* London. Drawing Room. p5

This ambiguity is also present in contemporary sculpture, due to the use of multi-media within sculpture. It is possible for it to be viewed that, as Krauss wrote in 1979, "the category can be made to become almost infinitely malleable".[16] Krauss's 'malleability' is because the medium of sculpture now can employ different techniques, and materials, that create different positions, or points of view, within the field. This gives the potential for the breaking of boundaries of the categories, or mediums. The problem with this is that it can cause ambiguities in this post-medium era, (Lovatt, A. 2012), and due to this it was necessary to focus on specific work, which was relevant. A review of all contemporary drawing, or sculpture, or even both, would be beyond the scope of this research by being far too extensive. Although the literature review had to be focused on artists who break the boundaries between sculpture and drawing, this still left a wide range of contemporary artists. Due to this, it could be argued in relation to Lovatt's post-medium era, (Lovatt. A. 2012), there are no fixed boundaries to break, but for this research as a starting position there needed to be a separate definition for contemporary drawing, and for sculpture, which defined boundaries between each medium and thus there are fixed boundaries. Many artists such as Richard Deacon construct work, which could be conceived as falling into the expanded notion of drawing. Due to this, I made the decision to only concentrate on artists whose work is discussed, by critics, as drawing. The review also was concentrated on artists whose practices, which create work that is three-dimensional. The practices of many artists, such as Cathy Wilkes and Mark Manders were initially

[16] KRAUSS, R. (1979) *Sculpture in the expanded field* In: KRAUSS, R. (1985) *The originality of the avant-garde and other modernist myths.* Cambridge, Mass. MIT Press. 11th. p277

looked into, but the research needed to concentrate on artists, which had the strongest links to the investigation. Later in the research, my decision to concentrate on transferring the potential of improvisation, in drawing, to my practice, helped narrow this list of artists. With improvisation and three-dimensionality being the focus of the research, four artists were selected, because of their use of strategies , which could have the ability to inform and expand the research.

Two major artists that create three-dimensional work, within the realm of the expanded practice of drawing, are Eva Rothschild and Monika Grzymala. Their work was chosen, because their practices represent artists who challenge the boundaries between sculpture and drawing. Each artist uses line, and form, to construct what could be conceived as three-dimensional drawings*. These works also have the potential to be improvised, and thus they are prime examples in the context of the research.

The exhibition *Diana Cooper and Hew Locke*, which was commissioned by 'The Drawing Room', London, in collaboration with the 'Centre for Drawing at Wimbledon School of Art', was also chosen as an example. 'The Drawing Room' is a gallery, which specializes in the presentation of international contemporary drawing. Both artists produce work, which could be conceived as three-dimensional drawing, whilst using strategies, which have an element of improvisation. Although each uses improvisational strategies, the techniques that each artist uses are different. Both employ the improvisational strategies of

addition, and subtraction*, in the creation of their work. These allow for improvisation by creating an approach, which can adapt to the intentions of the artist, and the evolving form of their work. They do this by allowing for both artists to add and subtract elements, in response to how their work evolves. Cooper has an additional, improvisational strategy of mutation, within her practice. Her mutation occurs due to an improvised deviation that informs the addition, or subtraction of her forms. In Locke's work these strategies enable the process of layering to occur, whilst transforming the three-dimensional form into pictorial elements. Cooper uses these strategies, to expand her work into three-dimensional space, by using a varied collection of materials to produce line and form. These artist's practices are examples of how varied work can be, which could be conceived as three-dimensional drawings. This variation was a key reason that Cooper and Locke's exhibition was selected together with their use of improvisational strategies. Due to this, it is an exhibition that showed the practice of drawing to be a fluid and evolving medium where improvisational strategies can be utilized, and is highly relevant to this research.

2:2 Monika Grzymala

The Polish artist Monika Grzymala creates installations, which could be conceived as three-dimensional drawing. Ester Adler wrote, "Monika's work is a critical statement about what a drawing can be, and how it can leave the page to engage directly in our space and lives."[17] Her engagement of line in three-dimensional space allows for the liberation of drawing, so it can exist beyond the page. Adler wrote that her works are still "grounded in drawing,"[18] and are expressions of a" direct engagement of materials."[19] This happens because her materials are three-dimensional, which allow her work to evolve beyond two-dimensional drawing. The curators of one of her exhibitions, Catherine De Zegher and Cornelia Butler, commented on this when they wrote about her work as being "the transformation and evolution of the drawn line into plane, movement, landscape, performance, video and sculptural objects."[20] Through this transformation, the drawn line is transformed into complex three-dimensional

[17] ADLER, E. *Last chance to see Monika Grzymala and the exhibition on line: Drawing through the twentieth century* [Online] Available from: http:// www.moma.org/explore/inside_out/2011/02/03/last-chance-to [Accessed on 03/01/13]

[18] See 17

[19] See 17

[20] BUTLER, C and De ZEGHER, C. *A line to space: Monika Grzymala* [Online] Available from: http://sculpture.org/documents/scmag13/mar_13/mar13_featur. [Accessed on 02/04/13]

drawings, which have spatial qualities. This spatial operation allows the lines to engage with their environment, whilst liberating them from the page.

The work "Raumzeichnung" (2011), which was installed in the Summaria Lunn Gallery, is an example of what Grzymala calls her "architectural interventions*."[21] (See Fig. 1. GRZYMALA. M. (2011) 'Raumzeichnung'. p. 28)

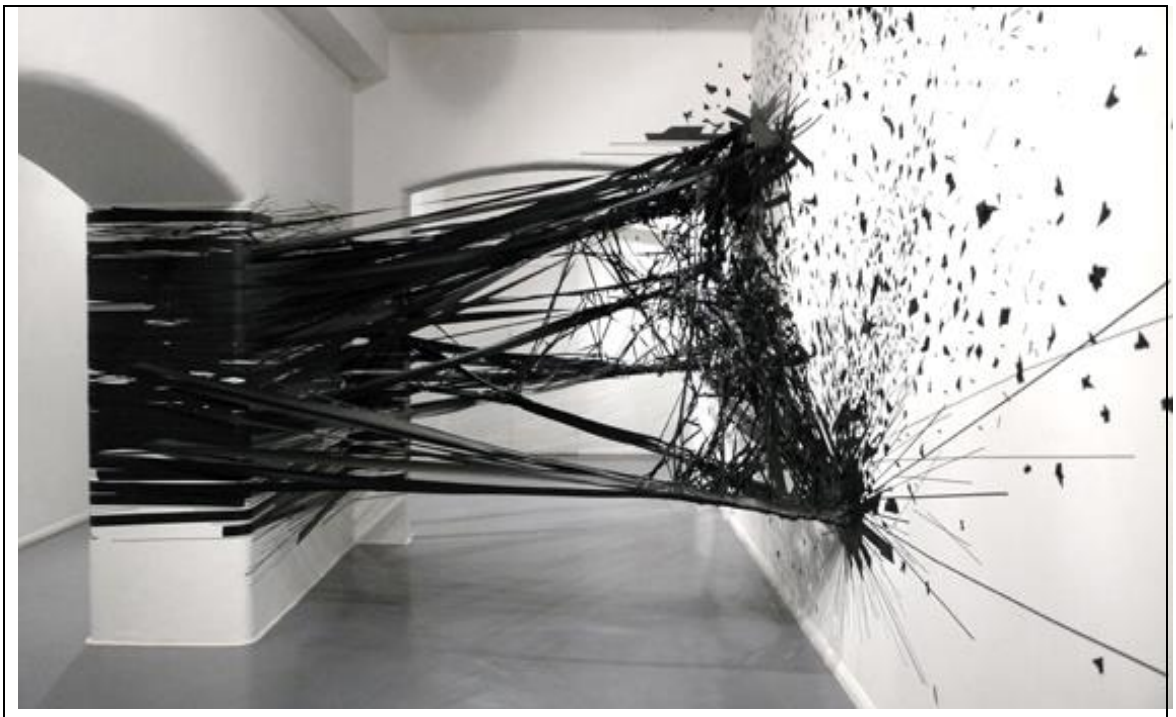

Fig. 1. GRZYMALA, M. 'Raumzeichnung' (2011)

A loose interpretation of the German title is 'drawing in space'. It is created by kilometers of black tape, which explode from the walls to engage with its environment. The tape is intertwined, and converges to create the overall effect of

[21] GRZYMALA, M. *Monika Grzymala* tapes up the Summaria Lunn [Online] Available from: http://www.creativereview.co.uk/er_blog/October/monika_grzy [Accessed on 21/01/13]

an explosion. This is perhaps very apt, as it mirrors the amount of energy which creating a work like this would need. Due to this, her work has a performative element. Grzymala commented on this when she said, "whenever I leave a work, I feel as if I leave a part of my body behind."[22] Her massive outpouring of energy as in all cases, dissipates over time. As her performances and creations slowly fade over time, as the tape detaches itself from the surface of the wall. So her works are like time capsules of a frozen moment, which, due to gravity, disintegrate over time.

Conclusion

Grzymala's work, due to its transformative and evolutionary treatment of the drawn line, allows for an expansion and liberation of drawing from the page. Her works' lines engage with free space and with the environments they are installed in. Through engaging and transforming the materials she creates lines which exist in three-dimensions. The performance, aspect of her practice, imbues power and energy to the installations she creates, which then fade over time.

Her work is an example of what could be conceived as a three-dimensional drawing. There is an element of pre-conceived design in the construction*, which

[22] ADLER, E. *Last chance to see Monika Grzymala and the exhibition on line: Drawing through the twentieth century* [Online] Available from: http:// www.moma.org/explore/inside_out/2011/02/03/last-chance-to [Accessed on 03/01/13

creates a relationship with the architecture it inhabits. Despite the design element, the performative aspect of her practice must allow for a certain amount of improvisation. Due to this, and Grzymala's translation of the drawn line into the three-dimensional environment, her work is relevant to this research. This is the reason why Catherine De Zegher and Cornelia Butler wrote that Grzymala has a "significant position in drawing's expanded field*."[23] The expansion of her drawing practice, into the three-dimensional realm of sculpture, is achieved by using kilometers of what Grzymala calls "used line*."[24] Grzymala's manipulation of these existing lines*, or linear three-dimensional material, expands her drawing practice into the sculptural realm. Her work, although three-dimensional, is still grounded in drawing, but it has become a performative engagement with materials. She draws, or sculpts, lines in free space. It is this ability to conceive a 'potentially' sculptural act as drawing, which gives her the significant position in the field of drawing, by challenging the assumptions associated with the line in drawing.

Grzymala's work has a significant position in the expanded field of drawing, and is a good precedent for this research. Her work has a performative quality that would add an element of improvisation in its construction, which allows for the work to evolve through an additive strategy. Grzymala uses three-dimensional linear form to replicate the line in drawing but linear marks are not the only marks

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[23] GRZYMALA, M. *Monika Grzymala* tapes up the Summaria Lunn [Online] Available from: http://www.creativereview.co.uk/er_blog/October/monika_grzy [Accessed on 21/01/13]

[24] GRZYMALA, M. *Monika Grzymala* [Online] Available from: http:// www.drawingroom.org.uk/exhibitions/monikagrzymala.php [Accessed on 02/01/13]

that exist in drawing. The mark takes on many forms* in drawing, (such as smudges, shading etc). For a sculptural practice to replicate drawing in its entirety, the mark should be present in various different forms. Even though there is a lack of variety of line, the work's influence on this research should not be underestimated, but its emphasis on linear form* should be taken into account. Grzymala's work provides evidence that three-dimensional drawings can exist, and this is an important finding for this research.

2:3 Eva Rothschild

Another artist, who has explored the boundaries between sculpture, and drawing, is Eva Rothschild. Her works can be, as K. M. Jones wrote, "sleek quasi-geometric structures,"(which possess) "minimalist DNA."[25] 'Cold Corners' (2009), which was installed in Tate Britain, could be seen as an example of this type of work. (See Fig. 2. ROTHSCHILD, E. (2009) 'Cold Corners'. p. 32)

Fig. 2. ROTHSCHILD, E. (2009) 'Cold Corners'

[25] JONES, K. M. (2007) *Eva Rothschild* [Online] Frieze Magazine. Available from: http://www.frieze.com/issue/review/eva-rothschild [Accessed on 14/01/14]

Claire Breukal described this piece as being "obviously minimalist in physicality."[26] Although minimal in form, it takes over the gallery, whilst still keeping the lightness and delicacy, which is present in her small-scale work. Like many of her works, it also draws deeply on the practice of drawing. The curator of the exhibition Katherine Stout commented on this when she described it as "a scribble in space."[27] Beatrix Ruff gave a better description of Rothschild's practice when she described it as "transforming three-dimensional material back to drawing."[28] Laura Cummings described this transformation of materials as a "progression from two to three dimensions."[29] Like in Grzymala's work, this progression allows for Rothschild's 'lines' to have three-dimensional qualities due to them being constructed from three-dimensional materials. These materials have linear form, which is conceived by the artists, as replicating the line in drawing, within a three-dimensional environment. (These forms have this linearity* due to them being defined chiefly in terms of line by the artist and critics). Although both artists use different materials, and techniques, how the linear form is used in their work is

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[26] BREUKAL, C. *Eva Rothschild- Cold Corners* [Online] Available from: http:// www.artpulsemagazine.com/eva-rothschild [Accessed on 10/10/12]

[27] STOUT, K. (2009) *Eva Rothschild's 'scribble in space fills Tate's sculpture galleries* [Online] The Guardian. Available from: http: // www.guardian.co.uk/artanddesign/2009/iun/29/tate-britain-rothschild-cold-corners [Accessed on 12/08/12]

[28] RUFF, B (2004) *Eva Rothschild.* 1st ed. P11.Switerland. JRP/Ringier Kunstuerlag

[29] CUMMING, L. *It boldly goes where no sculpture has gone before* [Online] Available from: http://www.guardian.co.uk/artand design/2009/iul/eva- Rothschild-duveens-commission [Accessed on 12/08/12]

similar. Each uses it in an exploration of three-dimensional space, whilst transforming the linear form of the materials into the drawn line. Whether this transformation of materials is seen as in Rothschild's case, from three-dimensional to two-dimensional, (Ruff, B 2004), or in Grzymala's case, evolving from two-dimensional to three-dimensional, (Butler, C and Zegher, C. 2009), they both conceive linear forms, as line, in their practices.

In Rothschild's work the transformation of the 'drawn line' is represented by the linear, three-dimensional materials, which not only produce, as Eleanor Naire wrote, a "testing out of sculptural possibilities of space,"[30] but also of the lines' relationship with space. Through her use of drawn line, or three-dimensional linear form, she liberates line from the page, whilst giving it the spatial qualities of sculpture. Due to this, the liberated line, could equally be conceived as drawing, or as sculpture. This occurs, because Rothschild uses qualities of drawing, to expand her sculptural practice.

Rothschild's expansion, in the case of 'Cold Corners', created a, as Eleanor Naire wrote, "explosive structure of lines."[31] It also consisted of, as Naire wrote, "minimal sculptural forms."[32] This is the duality, which exists in many of Rothschild's works. It could be conceived as a 'scribble in space', as Stout writes, as well as a sculptural

[30] NAIRE, E. *Eva Rothschild* [Online] Available from: http://www.frieze.com/ issue/review/eva-rothschild [Accessed on 12/08/12]

[31] See 30

[32] See 30

artifact. Like 'Cold Corners' this ambiguity is a balancing act, but it shows the potential fusion of practices, by using the linear qualities of drawing with the three-dimensional properties of sculpture.

Conclusion

Claire Breukal wrote about the structure of 'Cold Corners', that "the rigid triangles contrast their weightless materiality, letting sculpture flow, as if each triangular segment has grown from the last like an ordered and controlled, yet growing vine."[33] It was also a feat of engineering, which was, as Rothschild described it "a confused and anxious alternate architecture,"[34] and a scribble in three-dimensional space. So, it was a flowing sculpture, a piece of alternate architecture, and a scribble. With all these contradictory descriptions, what was 'Cold Corners'? It could be argued that it was all these things. It is a sculpture, but it is also a progression of three-dimensional drawn lines, which impose an alternate architecture on the space. It is the plural nature of this work, with Rothschild's ability to transform three-dimensional materials, which makes it relevant to this research. It is both sculpture and drawing, with the work employing qualities of both. It shows the lines potential relationship to space, whilst transforming

[33] STOUT, K. (2009) *Eva Rothschild's 'scribble in space fills Tate's sculpture galleries* [Online] The Guardian. Available from: http: // www.guardian.co.uk/artanddesign/2009/iun/29/tate-britain-rothschild-cold-corners [Accessed on 12/08/12]

[34] ROTHSCHILD, E. *Rothschild's Cold Corners dominates neo-classical Tate Britain hall* [Online] Available from://http://www.culture24.org.uk/art/art70543 [Accessed on 12/08/12]

sculptural forms by using qualities of drawing. This duality, makes it possible, to conceive this work as a three-dimensional drawing.

In terms of this research, Rothschild's skeletal forms have similar affinities with Gzymala's work. Rothschild's forms tend to be linear, also excluding the wide variety of marks present in drawing. Due to this, the lack of the variety of marks in her work must be taken into consideration, this does not mean her work has no relevance to this investigation.

Although Rothschild creates work that is influenced by drawing many of her sculptures, like 'Cold Corners', have a final form, which might not be improvised. (But there will be an improvisational element during the planning stage, through maquettes, or preliminary drawings. 'Cold Corners', in its final form, would have been installed with a certain amount of pre-conception beforehand, due to the industrial nature of the material used and how it would fit within the gallery space). Within the practice of drawing not all works are improvised, but the structure of a drawing, usually, evolves over time, and sometimes the final forms of some of Rothschild's constructions do not reflect this. These constructions, to a certain extent, have to be planned out beforehand, and this limits the sculptural forms potential to evolve through interactions between the artist, and the material. This lack of potential evolution, during the construction of the final form, does not mean Rothschild's work has no relevance to this research. Rothschild's practice must be seen as an example of a practice that creates work that could be conceived as three- dimensional drawing. As this research was seeking an approach that uses

improvisation, during the construction of the final form, this must be taken into account when considering the relevance of Rothschild's work.

2:4 Diana Cooper and Hew Locke

Diana Cooper and Hew Locke at the Drawing Room

The exhibition Diana Cooper and Hew Locke, was a touring show, which was commissioned by 'The Drawing Room', London, in collaboration with the 'Centre for Drawing', at 'Wimbledon School of Art'. These two artists' practices are examples of the expansion of drawing. Each artist creates work, which is three-dimensional, whilst using improvisational strategies in their practices. Although both use additive and subtractive strategies within their creative process, the work they produce is extremely different. (Cooper's practice also has the improvisational strategy of mutation in her process). This difference, and the use of these improvisational strategies, was the reason why this exhibition was chosen as an example for this research. The exhibition showed how varied work can be, whilst still being in the category of what could be conceived as three-dimensional drawing. Due to this, this exhibition was a prime example of the diversity possible in the expanded field of drawing.

Diana Cooper

The artist Diana Cooper has said, "I create visual hybrids* of drawing, painting, sculpture and installation*."[35] Cooper calls these "hybridized constructions,"[36] which are a mix of many qualities of different mediums, such as line and three-dimensionality. This gives her practice an opened-ended style, which allows for the inclusion of many qualities of different mediums* into her work. Her open-ended style creates the groundwork for strategies which leading to an opening of possibilities that inform a great amount of variation in her work. Cooper's strategies enable her to have an almost endless vocabulary of abstract forms, which make up a visual language of construction. Daniel wrote that her practice has, "a certain approach to lines, networks, and ruptures, that begins with doodling and then creates a perfectly controlled structure."[37] These three-dimensional structures are created in a practice, which can be labour intensive, whilst producing a proliferation of forms. Wood commented that this proliferation

[35] COOPER, D. *Diana Cooper* [Online] Available from http://dianacooper.net /docs/writings.html [Accessed on 17/06/12]

[36] WEI, L. *Line Analysis* [Online] Art In America. Available from: http://www.dianacooper.net/downloads/review_translation.pdf [Accessed on 12/09/12]

[37] DANIEL, M. *Diana Cooper: Systems that make not sense* [Online] Available from: http://www.dianacooper.net/docs/writings.html [Accessed on 17/06/12]

enables her work to "collect, compile, accumulate and grow,"[38] whilst expanding into three-dimensions. Cooper describes her process as doodling, which seems to be habitual in her practice, whilst constructing what Wood described as "proliferating systems almost like benign viruses."[39] The proliferations of these viruses seem to have the potential to be endless in their complexity. This complexity is produced through a strategy which involves repetition*, which can verge on the obsessive. The obsessive quality, in her work, produces a type of construction that because of this repetition can resemble the circuit boards of computers. Although the work resembles these boards, her work, also utilizes an organic progression, which produces what Langan describes as an "expanded doodle."[40] The doodling process enables Cooper to make alterations, which allows her work to grow, or accumulate, organically. This organic expansion perverts her forms, enabling the work to move beyond simple repetition, and embrace the random. Due to this, her work can be disorientating for the expectations of the viewer. It can make Cooper's drawings have a quality of insanity and Daniel describes them as "somewhere between perfect construction and the

[38] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[39] See 38

[40] LANGAN, G. *Diana Cooper* [Online] Available from: http://www.dianacooper.net/docs/wrtings.html [Accessed on 17/06/12]

incomprehensible."[41] These incomprehensible constructions accumulate through the choreographed act, enabling an exploration of space. (Cooper describes herself as choreographing space).

Cooper creates detailed plans, which she describes as 'blueprints'*, which can be used to recreate her constructed drawings. Her blueprints are evidence that her work is doodled into being through a strategy of improvisation. These are step-by-step guides, where she records each step during the process of construction, would not be needed if the work's structure were already planned out, or at least it could have been produced beforehand. In Cooper's words the "blueprint has a strange relationship to permanence, in that the piece can be forever reconstructed."[42] This sense of permanence, or plan for the potential of permanence, takes the constructed drawing full circle. As Wood wrote "we might wonder if traditional drawing has the last say."[43] It could, as Wood wrote, be the 'last say', but it could also be the beginning of a new cycle for the work. The blueprint could be the

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[41] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[42] COOPER, D (MacADAM, B, A.) *Pink And Red And Nascar Too* [Online] Art News Available from: http://www.artnews.com/2012/12/19/pink-and –red-and –nascar-too/ [Accessed on 19/03/13]

[43] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

instrument of rebirth, creating a potentially endless cycle of construction and destruction.

Her work, in the exhibition at the Drawing Room, London, was titled ‘Orange Alert’ (2003 and ongoing). (See Fig. 3 and 4. COOPER, D. (2003 and ongoing) Orange Alert. p. 42 and 43)

Fig. 3. COOPER, D. (2003 and ongoing) ‘Orange Alert’.

Fig. 4. COOPER, D. (2003 and ongoing) 'Orange Alert'.

Cooper described the exhibition " as the visual equivalent of a piercing alarm."[44].It was a response to the colour coded terror alert system, used by many

[44] COOPER, D. *Orange Alert UK (2003-8)* [Online] Available from: http://www.escapeintolife.com/artist-watch/Diana-cooper/ [Accessed on 15/08/13]

governments. It has many free standing obstacles that when the viewer interacts with them, generate a sense of jeopardy. Through these interactions an experience of alarm happens due to what Cooper calls "booby-trapped physical spaces,"[45] which could potentially keep the viewer on edge. This is reminiscent of the purpose of the alert system, even employing a colour scheme, which relies heavily on the higher terror alert colours. Through these colours, and booby-traps, the work is an exploration of our fears, as well as a comment on the panic and insecurity generated by such systems.

The work gives an insight into Cooper's strategies, which show what Canigla described as "a cause and effect approach taken beyond and logical limits."[46] It expands the limits of the alert system from beyond the visual, into the realm of the physical. It's booby-traps reflect a physical interpretation of the uneasiness, which alert systems produce.

Cooper's sculptures are examples of what could be conceived as three-dimensional drawings. There are elements within her work, such as her use of linear forms, which could be associated with the practice of drawing. She

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[45] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[46] CANIGLIA, J. *Diana Cooper* [Online] Art Forum. Available from: http://www.mutulart.com/OpenArticle/Diana_Cooper/4DDABCCFA5672F55 [Accessed on 12/10/13]

transforms these linear forms into what could be conceived as forms that replicate the line in drawing. These 'lines' explore and describe volume performing a similar function to the line in two-dimensional drawing. There are also forms that are non-linear, which introduce a sculptural quality to her work. These non-linear forms, or objects, as well as the linear forms, have three-dimensional volume in their own right, so could be conceived as being part of a sculpture. (The definition of sculpture that is used in this research is an object that has three-dimensional volume, but a collection of objects could also be conceived as being parts of a larger object, which is three-dimensional). Due to the duality of conceiving her work as a three-dimensional drawing and a sculpture, (or in some cases an installation), her artwork could seen as being produced through a practice that is influenced by the post-medium era. (Lovatt, A 2012). This influence of what Krauss describes as the malleability of sculptural practice, (Krauss, R 1979), (as well as drawing practice), allows her work to employ strategies, techniques or materials which are not usually associated with sculpture. She produces work, which could be conceived as, blurring the boundaries between mediums, although an argument could be made that due to this post-medium era there a no boundaries to blur, or break. (Although due to this research using separate definitions for sculpture and drawing these boundaries are conceived as being present).

Conclusion

Jon Wood wrote, "there is clearly, for Cooper, a great deal more to the materials of drawing than just pencil and paper."[47] She uses a multitude of different materials, to generate her forms in her improvised, constructed drawings. Daniel wrote that she has, "a more capacious definition of drawing"[48], which through the inclusion of three-dimensional form, produces what could be called a drawing, which takes elements from various mediums. Her three-dimensional hybridization of materials and technique, according to Wood, expands her practice "off the page, off the drawing board, off the edge and off the wall."[49] These constructions are complex improvised drawings, which contain three-dimensional lines and objects. Her strategies allow both line and object the ability to wander, whilst exploring the three-dimensional realm.

This work Wood described as spreading "like a beautiful virus from wall to floor and ceiling,"[50] but is it an example of three-dimensional drawing? Her creations of hybrids have qualities of many different mediums, but is it a drawing with qualities

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[47] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[48] See 47

[49] See 47

[50] See 47

of sculpture? Wood wrote "her drawing takes on a sculptural character,"[51] and went further when he described her practice as "re-exploring the dimension of drawing."[52] Her work engages with three-dimensional space, by employing the improvisational strategies of addition, subtraction, and mutation, but does this produce drawing that have sculptural qualities? It is three-dimensional, and the materials expand from and off the page, but does her doodling produce a practice which draws in three-dimensions? If any work, and the practice that constructed it, could be conceived in this way it would be Cooper's. Cooper's work is made from three-dimensional forms that are constructed with strategies that are influenced by drawing and thus is further evidence of existence of three-dimensional drawing. Although in her words they are hybrids, there are clearly qualities of drawing in her sculptural doodles. They are constructed through improvisational strategies, which produce mutated collections of objects. Cooper's mutated collections a transformations of line, and form, which engage with the existing three-dimensional space of the gallery. This three-dimensionality, within her practice, makes Cooper's work relevant to this research due to its employment of strategies, which can be associated with drawing.

Cooper's work evolves over time, through a strategy of mutated construction. Cooper's practice is informed by her use of the improvisational strategies of

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[51] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[52] See 51

addition and subtraction. The subtractive process allows for an accumulation of materials where deviation is possible. This approach also allows for the re-positioning and removal of the line and forms in response to how Cooper choreographs the mutations in her work. Her use of these strategies shows that the construction of three-dimensional work can be based on an improvisational approach. Due to this, her work confirms that my practice can be expanded, by adopting strategies such as these, making this finding crucial to my research.

Hew Locke

Hew Locke refers to his work as, "operating on the boundary between drawing, installation and sculpture."[53] He is also quoted as describing his practice as, "drawing with a Stanley knife."[54] Cutting is not without precedent in Fine Art, with artists such as Henri Matisse, who carved in colour, whilst producing his cutouts. (Matisse's cutouts are normally associated with his later work from the 1960's, but he did produce similar work in the 1930's). These two descriptions of his practice, hint that Locke, like Cooper, re-explores the dimensions of drawings. Locke's re-exploration is able to take place because, as Wood wrote, "drawing still plays a crucial role in his body of work, from first marks to final touches."[55] This, however, is not the entire story, as Locke said that his works start, "with an accurate drawing underneath and then evolve into something completely weird."[56] Throughout the evolving weirdness, the line and other marks, multiply and become a teeming swarm. Using the process of multiplication produces an

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[53] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[54] See 53

[55] See 53

[56] Hew Locke In conversation with Jon Wood, 20th August 2004. Tape Recording and transcript in WSA archive. In: DOYLE, M AND MACFARLENE, K. (2004) *Diana Cooper and Hew Locke.* 1st ed. London, England. Drawing Room Tannery Arts

improvised evolution, which expands beyond the two-dimensional, to the three-dimensional realm. This evolution happens during Locke's process in which he utilizes both additive, and subtractive strategies, which build layered surfaces. Locke commented on this when he said, "my work is about layers of materials both figuratively and conceptually."[57] Wood commented on this when he wrote, "layering*, whether drawn, cut or applied, that is at the heart of Locke's work."[59] Using these processes produces a strategy of accumulation*, which constructs encrusted layers of ornamentation. Mercer described this layering as, "sculptural assemblages where cumulative density of the kitsch plastic toys and floral garlands generate visual excess."[61] Locke's visual excess transforms the gaudy, and the colourful, taking them on unexpected journeys. These journeys allow members of the throwaway society, to comment on that society. In essence, he uses kitsch to comment on kitsch, and the value we place upon it. These common images are taken "freely from sources as wide ranging as Renaissance art and architecture, Indian temple statuary, and kitsch toys found in Brixton's markets but manufactured in the east."[62] These sources add improvised layer upon improvised layer of not only objects, but also meaning. Locke uses these objects like marks in a

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[57] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

[59] See 57

[61] MERCER, K. (2011) *Starless and bible black: Art travelling through dark times.* In: BONNEL, P and JAMES, S. *Stranger In Paradise.* London, UK. Black Dog Publishing Ltd. p11.

[62] HOFFMAN, J (2011) *God save the queen*. In: BONNELL, P and JAMES, S. *Stranger In Paradise*. London, UK. Black Dog Publishing Ltd. p8

drawing, transforming them into pictorial elements. These forms accumulate, through additive and subtractive strategies, whilst expanding the image into the three-dimensional realm. This is achieved by the use of, as Locke puts it, "the cheapest thing I can find,"[63] which, in this exhibition, is pound shop objects. It is ironic that he tries to make cheap objects look precious, which in their own way try to look expensive. The irony increases with the works 'Veni, Vidi Vici', (See Fig. 51. LOCKE, H. (2004) 'Veni, Vidi, Vici'. p.52), 'All That Glitters', (See Fig. 52. LOCKE, H. (2004) 'All That Glitters'. p.53). And 'Grin And Bear It', (See Fig. 53. LOCKE, H. (2004) 'Grin And Bear It'. p. 54) when you consider they represent Coats of Arms. (Note: There is an anomaly in the titles of 'Veni, Vidi, Vici' and 'Grin and Bear It'. On Hew Locke's Internet home page their titles are as presented below[64], (this where the images were taken from), but in the exhibition catalogue from 'The Drawing Room'[65], their titles are reversed).

[63] LOCKE, H. *Hew Locke* [Online] Available from: http://www.hewlocke.net /houseofwindsor3html. [Accessed on 24/06/12]

[64] See 63

[65] MacFALENE, K. and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

Fig. 5. LOCKE, H. (2004) ‘Veni, Vidi, Vici’. (214cm x 244cm)

Fig. 6. LOCKE, H. (2004) ‘All That Glitters’ (coat of arms of the City of London)

(239cm x 266cm)

Fig. 7. LOCKE, H. (2004) 'Grin and bear it'. (Coat of arms of the queen) (240cm x 202cm)

The above works are visual statements, and also reflect a cultural comment on consumerism. His use of kitsch materials is a way of questioning consumerist values, and the visual image of hierarchy. Locke's transformation, or even veneration, of the cheap, the throwaway and disposable, could be thought of as a

homage to the Pop Art* movement. This is probably why Ben Lewis describes him as the "new king of pop art."[66] Although Locke goes beyond Pop Art by creating images from objects, instead of creating facsimiles of them.

Locke's work parodies high art by using bric-a-brac, pound shop ephemera and cheap looking bling. By using these ephemera he bypasses the veneration of the object (Wood, J. 2004), using ephemera to comment and to construct images of capitalist culture (this also could be linked to Locke's fascination with post-colonial identities).

These works, like many of Locke's, could be seen as having a pre-determined form, which is not improvised. They are, however, constructed through a strategy which has what Mercer described as a "self-determination that knows where it is heading, yet it is also incredibly fluid, mercurial, and somewhat unruly."[67] Although the final form is pre-determined, Locke employs additive, and subtractive strategies, which generate fluidity, in layer construction. This type of layering allows Locke to add three-dimensional objects to his work using them as pictorial elements in the construction of his sculptures. These objects are positioned across his work in an accumulative process, which forms a layer of objects. Once the layer

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[66] LEWIS, B. *Locke Is The New King Of Pop Art*. [Online] London Evening Standard. Available from: http://www.standard.co.uk?arts/locke-is-new-king-of-pop-art-74094448.html Accessed on 10/10/13

[67] MERCER, K. (2011) *Starless and bible black: Art travelling through dark times.* In: BONNELL, P and JAMES, S. (2011) *Stranger In Paradise.* London, UK. Black Dog Publishing Lid. p 10

is complete, another layer is added to certain areas to alter the form, or image, that Locke is constructing. This produces an opportunity for the layers to accumulate, through improvisation, by the positioning, re-positioning, and the removal of objects. These strategies can be seen in the many of Locke's layered works such as 'Black Queen' (2004)". (Fig. 8. LOCKE, H. (2004) 'Black Queen'. p. 57)

Fig. 8. LOCKE, H (2004) 'Black Queen' (290 x 160 x 60cm)

From a distance this improvisation is not immediately apparent, but when the work is viewed close up, it becomes visible, due to the shear mass of layered

objects, which would be difficult to plan beforehand. (Fig. 9. Locke, H (2004) 'Black Queen' (Detail) p. 58)

Fig 9. LOCKE, H. (2004) 'Black Queen' (290 x 160 x 60cm) (Detail)

Due to this Locke's work can be seen as employing improvisational strategies even though the final form is pre-determined. This type of improvisational layering, potentially, opens up the opportunity to alter the form of the entire sculpture during its construction. Locke's use of layering makes it possible to use an improvised approach to the construction of each new layer. Instead of following a pre-determined plan for the form of the sculpture this type of approach would allow for a more fluid construction of form. Locke's fluidity in his constructive approach could remove the need for these plans and potentially frees the artist to use a more improvised approach in their practice. (This potential of a more fluid construction of layers allows for the alterations made during the use of my

moulding technique. (See p. 110). This happens by adding one layer, letting the poured material cure, then altering the moulds form in preparation for the next pouring).

Conclusion

Does Locke's practice produce three-dimensional drawings? His work does seem to have an element of drawing, which is crucial to its formation. Mercer wrote, "whereas Paul Klee once said "drawing is like taking a line for a walk", (Klee 1924) I observed that across different mediums, Hew Locke has not only taken his line onto an oceanic voyage of cross-cultural inquiry but he has also set it free to roam."[68] Locke's starting points are drawn images that through a strategy of layering become three-dimensional by a form of additive and subtractive accumulation. His work relies heavily on the role of hand as they are "hand drawn, hand cut, hand pasted, hand constructed and hand assembled art."[69] The question is whether this is enough to claim that they are three-dimensional drawings, or is the role of hand even relevant to this question? Gerlinde Gabriel observes, "both

[68] MERCER, K. (2011) *Starless and bible black: Art travelling through dark times.* In: BONNELL, P and JAMES, S. (2011) *Stranger In Paradise.* London, UK. Black Dog Publishing Lid. p 10

[69] WOOD, J. (2004) *Diana Cooper and Hew Locke: Following the lines of the cut.* In: DOYLE, M, MacFARLENE, K and STOUT, K. (2004) *Diana Cooper and Hew Locke.* London. Drawing Room/ Tannery Arts

sculpture and drawing, come from the same hand, the sculptor's hand,"[70] so if both come from the same hand, there is a possible connection, (but not necessarily). He describes his practice as drawing with a stanley knife, and also as operating on the boundary between drawing, installation and sculpture. So Locke draws, although not with an instrument usually associated with drawing, making his practice use similar gestures to drawing. He also uses layers, which are improvised accumulations of objects, which are usually associated with sculptural practice, so there is an argument that his practice is sculptural. Due to this, his work could only be properly characterized as on the boundaries of drawing and sculpture, and thus has the potential to be called a three-dimensional drawing, or at least a drawing that has expanded into the three-dimensional realm.

Locke's practice is relevant to this research, due to it use of elements associated with drawing and sculpture. He uses the improvisational potential of drawing in his additive and subtractive strategies of layering, to draw with objects. These improvisational strategies allow for an approach, which is both considered and experimental, whilst using tacit knowledge to inform the construction of his work. Locke's work combines the ready-made and assemblage to construct his images. These marks form Locke's layers, which are three-dimensional and thus could be

[70] GERLINDE, G. *The Body Of Drawing: Drawings By Sculptors,* exh. Cat, The South Bank Centre, London, 1993, p.5. See also Tony Godfrey's catalogue essay. 'Seedcorn and Thunderbolts, pp7-17, in which he elaborates his concerns

described as sculptural, whilst being produced through strategies that are informed by the techniques of drawing.

2:5 Chapter Conclusion

The research question posed at the onset of this research was, 'is it possible to create a sculptural practice that is, or could be conceived as, drawing in three-dimensions?' Looking at Locke, Cooper, Grzymala and Rothschild's practices, lead to a positive confirmation. All of the four artists use these strategies, which transfer elements of drawing to their practices. This transference combines different elements, and strategies, to create post-medium practices. (Lovatt, A. 2012). Through these combinations, these artists' practice, have become amalgams of sculpture and drawing, which could be conceived as coming from either medium. Looking at Locke and Cooper's practices, it is clear they re-explore the dimensions of drawing by transferring elements of it to their sculptural practices. Whilst Locke's work is at the boundary between drawing, installation and sculpture, and Cooper's is a construction of hybrids, both their practices amount to an expansion of drawing into three-dimensional space. This also can be said for Grzymala's work, producing a transformation of the drawn line, or for Rothschild's ability to transform three-dimensional materials back to drawing. Each artist uses strategies associated with drawing to blur the boundaries between each medium. With this finding it was clear that it is possible that a sculptural practice could be, or could be conceived as, drawing in three-dimensions.

With each of the four artists having a practice that could be conceived as using an expanded notion of drawing to construct three-dimensional work, it can be asserted that the notion of sculpture as three-dimensional drawing is valid. Although all artists in my case studies practices produce what could be potentially called three-dimensional drawings, the works they generate are completely different. In Rothschild's work there is an expansion of line into three-dimensions her use of manipulating existing lines (linear forms that exist in three-dimensions). Gzymala's practice also uses a strategy that uses line in a performative technique, which allows for improvisation in the final form. In Cooper's work there is a domination of linear form, but she also uses a mixed palette of non-linear forms. Locke uses sculptural objects to draw with, assembling large works where the collection of ephemera could be seen as an accumulation of three-dimensional marks. There are strategies of construction in each of their practices, which are similar. These strategies produce a type of construction that enables Locke, Cooper and Grzymala's work to expand through a reflective, additive process. (The final forms of Rothschild's constructions, sometimes, do not have this quality). This allows their work to evolve, during the artistic process, which can alter, due to interactions with the materials and the forms they produce.

With artists' practices, such as Locke, Cooper, Grzymala and Rothschild providing a positive confirmation of the original question the main question had to evolve in response. The positive answer is perhaps due to a phenomenon in Fine Art today, in which, "the traditional categories of painting, drawing and sculpture

have for a long time, been useless in understanding the art object."[71] This is because many artists are exploring the potential of multi-media environments. These environments allow for two-dimensional mark making from drawing, to be used in a three-dimensional work. This can transform the mark-making process so its outcomes can exist beyond the flat virtual space of drawing and become three-dimensional, through the utilization of material and techniques that are not normally associated with drawing. It also allows the three-dimensional object of sculpture to be constructed in materials or techniques, not normally associated with this medium, such as using linear form in the construction of what can be conceived as three-dimensional drawing. Their exploration of multi-medium environments allows artists to combine strategies, techniques or materials from many separate mediums within their practices. This produces the malleability that Rosand Krauss wrote about in, "Sculpture in the expanded field", (Krauss, R. 1979), but is also present in other mediums. The presence of Krauss's malleability has allowed for a post -medium era (Lovatt, A. 2012), where qualities of different disciplines are combined by many artists. Although the categories still have relevance today, the boundaries of sculpture, painting and drawing are now blurred by artists such as Locke, Cooper, Grzymala and Rothschild.

With the original question answered, the generation of a new question was necessary. The *sub*-question, "what potential qualities of drawing could be transferred to the three-dimensional realm of sculpture?" guided the research

[71] WHITE, R. (2005) *Diana Cooper* [Online] The Brooklyn Rail. Available from: http://www.brooklynrail.org/2005/04/artseen/diana_cooper [Accessed on 17/10/13]

down a path of looking at potential strategies of artistic practice. (Although the main focus of the investigation was improvisational strategies). This interpretation of improvisation does not rely on the "instant intuitive decision,"[72] of spontaneity caused by using a sudden impulse. The problem with sudden impulses is that they create "little time for conscious reflecting."[73] A style of reflective improvisation has the ability to be "adaptable and reacting to ideas and realities that change."[74] Using this reflection arrests the spontaneous impulse, whilst allowing for an improvised reaction, and adaption, to what happened previously, without "pulling art out of thin air."[75] Due to this a reflective approach allows for the experience gained by an artist through their practice to influence how the process of adaption evolved, rather than ignoring it.

The presence of improvisation strategies within the case studies reinforced my desire to investigate how these strategies could develop my practice. This brought

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[72] PRESTON, L (2013) *Improvisation provides a window into implicit processes: Thoughts on Philip Ringstrom's work in dialogue with philosopher Gugene Gendlin* [Online] Available from: http:// www.focusing.org/…/improvisation_paper_for_publication_amended_pr [Accessed on 8/11/13]

[73] MERCER, K. (2011) *Starless and bible black: Art travelling through dark times.* In: BONNELL, P and JAMES, S. (2011) *Stranger In Paradise.* London, UK. Black Dog Publishing Lid. p 10

[74] KLOTZ-GUEST, K. *A more social, 'human' model for brainstorming means better business outcomes* [Online] Available from: http://www.Keeping.thuman.com/wp_context/PDFs/A_More_Human_Mode_for_Brainstorming [Accessed on 8/11/13]

[75] LINSLEY, R. *Improvisation in abstraction* [Online] Available from: http://www.abstractcritical.com/note/ improvisation-in-abstraction [Accessed on 8/11/13]

about the generation of a new main question, which was, “what are the implications, and opportunities, of transferring the improvisational potential of drawing to a sculptural practice?” Using the potential of improvisation would have a positive implication on the development of my sculptural practice, allowing the process to be more flexible. The problem with this question, which was discovered through a literature review, was that it was too broad. So I made the decision to narrow the case studies, to just two artists, so there could be more depth and rigour. Rothschild and Grzymala’s practices seemed to be too focused on linear form, so Locke and Cooper, were chosen to be the main focus. This choice was made because they produce three-dimensional drawings, through improvisational strategies, with more than linear form. The improvisational strategy of addition is present in both Locke and Cooper’s practices, which could improve my practice. Cooper uses the improvisational strategy of mutation, which also could assist the development of my practice.

With the research now focused on Locke and Cooper’s expanded notion of drawing, a new main question needed to be generated, which was, “what are the implications, and opportunities, of transferring the improvisational potential of drawing, to a sculptural practice, using Diana Cooper and Hew Locke’s practices (2000-2004) as precedents?” Although the work in the exhibition was the main focus, of the research, this time specific period 2000-4 was used to put their work into the context of their practices. This final version of the main question helped the research to focus on improvisational strategies. The short time of four years of their practice was because this period was the time when their work seemed most

relevant to the research. Some earlier and later works by both artists did not conform to the criteria of the research, such as Locke's work with share certificates or Cooper's work using photography. Focusing on the Locke and Cooper's practices within this specific time span allowed the research to concentrate on the work that was relevant to this inquiry.

The literature review established that the original question could be answered by looking at other artists work. This positive response enabled the question to evolve and focused on what the research needed to be about. Through looking at Locke and Cooper's practices the literature review was used as a springboard for the development of my practice whilst informing it of recent development in fine art. The creation of this informed springboard enabled the evolution of my practice that could be conceived as fulfilling the criteria of the investigation.

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3: METHODOLOGY

3:1 Summary

This research takes the form of Frayling's, "art as research, or, research for art and design."[76] The methodological process used was based upon Schön's theory of reflective research. (Schön, D. 1983) With the use of Schön's, "reflection in and on action,"[77] enabled the research to adopt a creatively based investigation, which evolves through a process of thinking through creative actions. These actions are inspired by the use of tacit knowledge, which is an essential part of the artist's equipment. Using tacit knowledge helped to produce a process, which was dependent on the "performative perspective,"[78] generates results by learning through practice. This type of learning is required in this particular research as the goal of the investigation is to develop a physical practice. As practice had to evolve

[76] FRAYLING, C (1998) In: HARRILD, A. *A transcript of research seminar on practice-based doctorates in creative and performing arts and design.* Surry Institute Of Art and Design. (14/07/98).p7

[77] SCHÖN, D (1983) *The Reflective Practitioner: How professionals think in action.* England. Ashgate Publishing. CHAP 3. p78

[78] BORGDORFF, H (2006) *The debate on research in the arts.* [Online] Available from: http:www.rhul.ac.uk/English/documents/phrphd/borgdorffdebateonresearchinthearts.pdf [Accessed on 12/03/13]

from practical experimentation so the research needed a type of methodology, which did not separate the researcher from the practical side of the research. The lack of separation involved in the performative perspective gave a greater insight into not only the finished sculptures, but also how the process evolved during the creative act.

The reflective perspective became part of the assessment of each work during, in, and on, actions (Schön, D. 1983), and enabled the resulting knowledge to be transferred into the research. Using this transference of knowledge created a feedback 'loop' in the research methods. This 'loop' enables the results to produce a cycle of knowledge production that reflected and built upon what had occurred. Due to this the cycle of knowledge is similar to methods that artists employ in a studio environment and it worked extremely well in terms of the goals of the research. It allowed a journey of knowledge production where thinking through reflection* on and in actions was at the core of the methodological approach.

3:2 What is practice-based research?

Practice-based research is not a type of research; it is a methodology that is used in artistic based investigations. (Gray, C). Linda Candy described these investigations as qualifying "as research when its purpose is to broaden knowledge and understanding through an original investigation. It begins with questions that are pertinent to the research context and the art world, and employ methods that

are appropriate to the study."[79] This definition sets these research methodologies apart from art studio practice as they allow for an investigation that has a stable template that can be focused on pertinent questions.

The methodology that was used in this research, Frayling described as "Art as research, or, research for the arts," which is "where the end product is an artifact, and where at least to some extent the thinking is embodied in the artifact."[77] With the creation of the art artifact as the objective and an embodiment some of the 'thinking' the methodology explores both theory and practice, within an integrated process. Using this type of process is common in practice-based methodologies as there is no separation between thinking and doing. The practical element is used to introduce or encounter new ways of thinking to an academic argument, which can redirect the course of the investigation. Through this the practitioner becomes a theory generator as well as a theory user. When doing this practitioners are not, as Carole Gray wrote, "passive consumers of theory but active contributors to its construction"[78] This contribution happens when reflecting on theoretical concerns through an exploration within a studio environment. It also allows for the consideration and integration of aspects of

[79] CANDY, L. *Practice-Based Research: A Guide.* [Online] Available from: http://www.mangold-international.com/fileadmin/Media/References/Publications/Downloads [Accessed on 02/01/13]

[77] FRAYLING, C (1998) In: HARRILD, A. *A transcript of research seminar on practice-based doctorates in creative and performing arts and design.* Surry Institute Of Art and Design. (14/07/98).p7

[78] GRAY, C. *In Theory? From the ground up: Encountering theory in the process of practice-led doctoral research.* [Online] Available from: http://carolegray,net/Papers%20PDFs/Fromthegroundup.pdf [Accessed on 01/08/14]

theory, both general and personal to be transformed into new theories and concepts through a practice-based investigation. This is achieved by asking pertinent questions about the work whilst using the practice as a basis to develop theories or concepts through the work. The process of developing these theories an concepts relies on contexts from earlier debates, theories and research as a springboard for the investigation to understand what is being done and why. These contexts are the foundation of the inquiry that shapes the research whilst enabling the use of creative outputs to develop new theories through practice. Using these creative outputs create a complex interwoven process that integrates theory and practice in an investigation that has the flexibility to capture and represent artistic responses. (Gray, C).

3:3 How does a reflective process work?

Whether the process of analysis is interpretive, or performative, the analysis is reflective in nature. This critical reflection asks simple questions which are pertinent to the inquiry. In interpretive perspectives the reflection address actions (Schön, D. 1983), or analysis of another person's work, after action. If the interpretation is of another person's work, a series questions similar to the following would be used: What is this? Why is it this way? Why did it matter that it was produced in this manner? In what context can this be assessed? How could this have been improved upon? If the reflection examines a person's actions, the set of questions would be similar to: How did it go? What went well? Why? What

didn't? Why? What next?[92] The performative perspective, however, reflects through or during action, (Schön, D. 1983). The questions, which are generated by processes such as this, are,

- How is it going?
- Why am I doing this?
- How am I doing this?
- How does what I am doing relate to the research criteria?
- How does this relate to what has occurred previously?
- What alterations can be made, at this moment, to further the research?

This differs to the interpretative perspective because of its potential insight into the creative process, which 'in action'[93] analysis can achieve. Although the interpretative process is used afterwards, or 'on action,'[94] once the performative process is complete. These insights allow for the creative process to focus on actions that have relevance to the inquiry and those that do not. (Which actions improved my practice in line with the research).

[92] NHS *Reflection.* [Online] NHS Available from: http://www.qmu.ac.uk/els/docs/Reflection.PDF [Accessed on 07/08/13]

[93] SCHÖN, D (1983) *The Reflective Practitioner: How professionals think in action.* England. Ashgate Publishing. CHAP 3. p78

[94] See 93

3:4 What is tacit knowledge?

The process of 'in action reflection' on the art artifact and the creative process, allows for a situation, where tacit knowledge can affect the outcome of the results. This silent knowledge, (it comes form Greek word 'Tacitus', which means silent), is embodied knowledge, or a skill set, which is a mental toolkit, based on experience. Borgdorff describes this as deriving,

"From a tradition, extending back to Greek antiquity, which distinguishes theoretical knowledge from practical knowledge. As early as Aristotle, the concept of *episteme,* intellectual knowledge, was contrasted with *techne,* practical knowledge required for making (*poiesis) and doing (praxis).* The concept of *phronesis*, or practical wisdom, in particular the knowledge of how to conduct oneself (especially in a moral sense can be also be understood in opposition to intellectual knowledge, which is known to be deficient when it came to worldly wisdom. (Carr, 1999; Kessels and Korthagen, 2001). In the 20th century this opposition was thematised in analytic philosophy as between 'knowing what' and 'knowing how", between knowledge and skill. Notably Gilbert Ryle (1949), and after him Michael Polanyi (1962, 1966) and the art theoretician David Carr (1978, 1999), elevated practical knowledge which, being tacit, implicit knowledge finds

no direct discursive or conceptual expression- to an epistemological equal footing, and Polanyi, even saw it as the foundation of all knowledge."[95]

Borgdorff describes this intellectual knowledge as restrictive in terms of worldly wisdom. This wisdom comes from practical experience, which gives the artistic practitioner an embodied knowledge of knowing how and knowing what, which is sometimes indescribable in intellectual terms. Borgdorff commented on this when writing, "art practice - both art object and the creative process - embodies situated, tacit knowledge that can be revealed and articulated by means of experimentation and interpretation."[96] Borgdorff described this articulation as, "embodied knowledge through the creative process and the art object."[97] "In sum, the knowledge embodied in art, which has been variously analysed as tacit, practical knowledge, as 'knowing how' and as sensory knowledge, is cognitive, though nonconceptual; and it is rational, though nondiscursive."[98] This 'sensory knowledge' is non-discursive due to it being mostly expressed in action-based skills that are specific to a particular subject area. Due to this tacit knowledge is

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[95] BORGDORFF, H (2006) *The debate on research in the arts.* [Online] Available from: http:www.rhul.ac.uk/English/documents/phrphd/borgdorffdebateonresearchinthearts.pdf [Accessed on 12/03/13]

[96] See 95

[97] See 95

[98] See 95

not always transferrable to other subjects and cannot be communicated, understood or used without prior knowledge of the subject. Even within the subject area tacit knowledge can be difficult to communicate via words as it is sometimes informed by unconscious actions that can only be revealed through the performance of these actions. Michael Polanyi commented on this when he wrote, "we know more than we can tell,"[99] with Donald Schön describing this as 'knowing in action.' (Schön, D. 1983). The effect of this 'knowing' within actions can be revealed through the observation of the use of these unconscious actions that are derived from practical experience. It is through these observations that this experience can be seen, communicated and learned through imitation of the approach to these actions, and the actions themselves.

3:5 Explanation of the research methodology

The approach to this research falls within Frayling's category of art as research, or research for art and design. The performative perspective was used in the production of the art object, and the creative process, and was of paramount importance to this investigation. This allowed interpretation and reflection in, and on actions, whilst allowing the inquiry to employ innate tacit knowledge. The performative perspective is similarity to artistic studio practice, was the main reason for it being chosen, because of the continuous journey of knowledge production.

[99] POLANYI, M. (1966) *The Tacit Dimension.* University of Chicago Press. Chicago. p.4

The specific set if methods that was used were:

1. What to research (The generation of a preliminary topic)
2. An investigation into a viable topic through a literature review, which included book, internet web sites, revelant articles and journals. (An investigation into the preliminary idea)
3. Creation of a research proposition (A short written proposal based on a discussion of the preliminary topic)
4. An initial investigation into the proposition's viability (A further investigation, into the preliminary topic, via a literature review, which included books, peer reviewed web sites, revelant articles, journals and exhibition catalogues)
5. Creation of a research question (The generation of the original research question, which was in line with the findings of the literature review)
6. Literature review (A comprehensive review of current literature, which was focused by the research question. This allowed the review to focus on the specific subject matter, of the research).
7. Redefinition of the research question (After a review of the findings, in the literature review the main research question was redefined and additional *sub*-questions were added to focus the research)
8. Defining a methodology (A review of the current literature on different types of methodologies, which concluded that a practice-based investigation, which used the performative perspective, was appropriate for this research)

9. Literature review (An investigation of current literature, which was focused by the methodology and the findings up to this point)
10. Recording of findings in a written journal (All the findings were recorded in a written format)
11. Creation of research/ artwork (Start of the research feedback loop) (The creation of the first sculptures in line with the criteria of the research question, and the preliminary findings)
12. Reflection in action (Whilst the creation of the sculptures, was taking place, a reflective process, (reflection in action) was used to generate knowledge through direct engagement with the artistic process)
13. Recordings of findings in journal (A written and photographic record was produced during the creative process detailing what occurred)
14. Reflection on action/ Analysis and evaluation (A process of reflection, on actions, of the findings and what happened in action)
15. Recording of findings in journal (A written record of the process of on action reflection)
16. Redefinition of research question, or the creation of *sub*-questions, in accordance with concluding reflections (When it was appropriate, the main research question was altered, and *sub*-questions were generated, to focus the research in the direction it was heading)
17. Revised literature review (The end of the research feedback loop) (A further literature review was undertaken to focus on the appropriate knowledge that was focused on the direction in which research was going)

18. Exhibition of results/ artwork at the end of the research (A set of sculptures, were exhibited, to demonstrate the findings of the research)
19. Creation of a written, and photographic record, of all research findings. (This thesis was a summary of what happened during the research and the conclusions reached by the investigation)

3:6 Chapter conclusion

The methodology research, enabled the production of knowledge through practice-based reflective processes. Although many methods or styles, could have been used, the performative perspective was the most appropriate for this research. This perspective utilized a practice-based methodology that had no separation between thinking and doing. It allowed for a practical element to be introduced within the research process that enabled the use of creative outputs to develop new theories through practice. The intergration of theory and practice gave the investigation the flexibility to capture and represent artisic responses whilst asking pertinent questions in the research. In Sjoberg's words, "making art is an important means of understanding art",[103] and through using a practice-based methodology a insightful understanding about the development of my practice was achieved. This enabled the research to be based upon the creation of

[103] SJOBERG, J *Practice As Research* [Online) University Of Manchester Available from: http://methods.manchester.ac.uk/methods/practiceasresearch/ [Accessed on 01/10/13]

art artifacts and the creative process that produced these artifacts, rather than being purely theoretical with no practical element. Due to this the practice-based methodology allowed for the research to be instrumental in the development of my practice whilst providing a theoretical understanding of the process that enabled this development to occur.

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4: Research

4:1 The beginning of the research

My practice at the end of the MA Fine Art programme constructed work by extruding clay that produced entire landscapes of linear extrusions. (Fig. 10. CAREY. J. (2008). 'The Thoughtscape' p.82)

Fig. 10. CAREY, J. (2008) 'The Thoughtscape' (3m x 3m x1m)

These landscapes were constructed from linear form by extruding the clay with a mincing machine. The linear clay form was allowed to form sculptures by accumulating a mass of line with as little artistic intervention as possible. This came from the idea of the process of construction dictating the form, rather than the artist. What I thought at the time of this works construction was that the process of creation was more, or at least just as important, as the finished form of the work. Using a process-based approach allowed for the form to accumulate without me defining its structure, whilst giving me the chance to explore the possibilities of a process led approach. Although it was impossible not to have a certain amount of intervention, this was an exercise of limiting it. The method used for limiting intervention was based on letting the extrusions drop from the mouth of the mincing machine, and form masses without structural alterations. The strategy of extrusion as process and minimal intervention allowed for the formation of these masses, which had no pre-determined result. Using this strategy brought up an intriguing idea of continuing to construct work without a pre-determined plan using an improvisational approach. The generation of these works, and strategy, is where the concept of this research derived from. If these improvised linear forms could be conceived as being reminiscent of the line in drawing, this would raise the question of what other techniques or strategies could be transferred to my practice? This idea evolved to question, ”is it possible to draw in three-dimensions?” If this was possible, there were many strategies from drawing that could improve my practice, especially those that involve improvisation.

4:2 The first sculptures

The first sculptures of the research period were based on an extrusion process that used clay, similar to my MA work 'The Thoughtscape' (2008)". Instead of using a mincing machine, the extrusion was performed with a clay extruder, similar to a syringe, which produced accumulated masses of linear form. The clay syringe gave more control of the linear forms and used a similar gestural movement to drawing. The masses were extruded around a wire armature, which allowed for them to accumulate vertically. This vertical accumulation added one mass upon another, whilst following the shape of the armature. Once the armature was completely covered by the masses the sculptures was classed as complete. The armature was used due to the clay's inability to construct anything more than a pile of extruded form. These piles appeared because when it is wet it is unable to support its own weight and thus cannot explore three-dimensional space in more than a pile. Adding an armature allowed for this 'exploration' by allowing the clay to accumulate around its form. The armature's form was made by bending the wire, without a particular shape in mind. This potential for the form to be made in this way was my first attempt at using improvisation in this research. (See Fig. 11. CAREY, J. (2008) 'Untitled (Clay)' p.85 and CAREY, J (2008) 'Untitled (Coloured clay)' p.86)

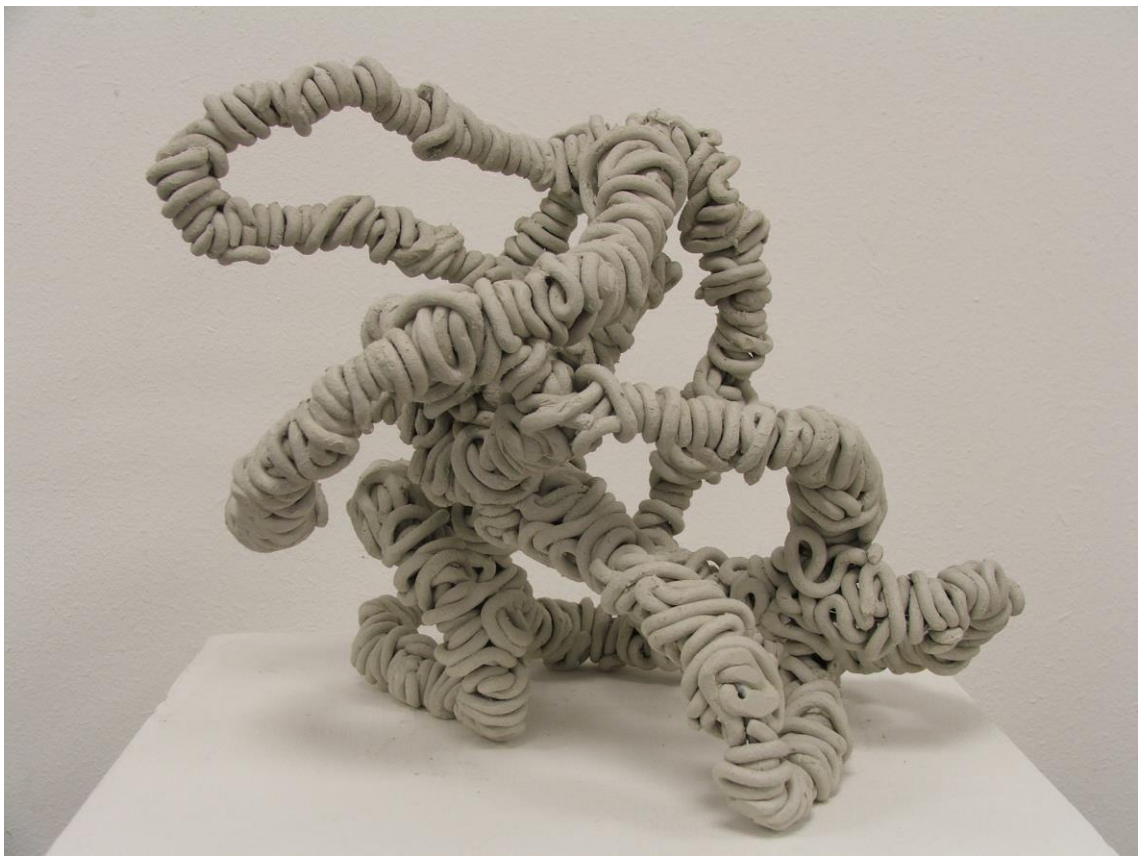


Fig. 11. CAREY, J. (2008) 'Untitled (Clay)' (30 x 25 x 20cm)

Fig. 12. CAREY, J. (2008) ‘Untitled (Coloured clay)’ (10cm x 10cm x 27cm)

The main idea behind using the syringe was that the extrusion process mimicked the gestural movements of drawing. These movements could be linked to Locke's process, when he draws with a Stanley knife to draw with. It also allowed for a strategy to produce an accumulation of linear forms. This additive strategy had the potential for improvisation, similar to those used by Locke, Cooper, Rothschild and Grzymala. It also opened up the potential opportunity for my practice to use linear form to replicate the line in drawing.

Although the work used an additive strategy similar to Locke, Cooper, Grzymala and Rothschild's practices, there were areas where the sculptures failed. The failure occurred due to the clay masses inability to explore their three-dimensional environment. The linear forms could accumulate, but only in a tight knit mass, similar to a pile of lines. This was because wet extruded clay has no strength or resistance to gravity and thus created tight knit bundles of material. I anticipated this problem so an armature was constructed to allow the mass of form to be more than an incoherent pile. Unfortunately this armature created a problem by inhibiting any potential improvisation by pre-determining how the accumulated piles grew. All processes have a certain amount of restrictions, but as improvisational strategies were classed as central to this research, this was a problem. The lack of improvisation determined a new criterion for a *sub*-question which was, "is it possible to transfer strategies associated with the 'freedom of hand', which allow for improvisation in drawing, to transfer to a sculptural

practice?" The freedom to improvise was an important strategy to replicate because it would allow for a greater exploration of three-dimensional space without being restrained by pre-determined forms. The search for improvisational strategies generated the *sub*-question, "what process, or technique, would allow for improvisational strategies in a sculptural practice?" This potential process would be shaped by the materials it used, so this was the reason the *sub*-question, "what materials could be used in a process, or technique, which would allow for improvisational strategies in a sculptural practice?" was generated.

In terms of the similarity of gestural movements the extrusion process was more successful. Not only was it a reflection of the gesture of drawing, but it also generated forms that had linear, graphic qualities. Although drawing has many types of mark, the implication of the linear forms was that it was evidence that the line could exist in three-dimensions. These lines not only had the potential to describe volume, but also had volume in their own right. If the problem of their lack of strength in terms of resisting gravity could be resolved they could not only describe volume in two-dimensions but also in three. This realization confirmed that I could continue to develop my sculptural practice employing linear form, despite clay's lack of internal structure would inhibit its improvisational potential.

4:3 Three-dimensional drawings and wire

The main problem with the first sculptures of the research was based around the chosen material, clay, lacking gravity resistant qualities. The construction of linear form in three-dimensions was achieved but, because of the strength issue, there were restrictions. These were partially resolved by the linear form of the wire armature that did not have this problem. Linear form was added to another form and raised the question, "why use clay when the wire has three-dimensional linear form?" Although the wire was not extruded, it exists already as line in three-dimensions made through the process of drawing. (This is an engineering technique, which is not normally associated with Fine Art). The existing lines of wire could be altered in three-dimensions in an improvisational way to describe volume similar to the line in drawing. The wire line's existence in three-dimensions, created volume, while still able to be used to replicate two-dimensional line in drawing. So the line could twist and turn in three-dimensions and defy the pull of gravity.

The process of constructing the wire sculptures was a simple technique of twisting, and bending. The wire started out as a straight rod, which was then

twisted and bent to make its final form. Each twist or bend, was not planned beforehand and slowly altered the wire's form. Each alteration of the form led to another alteration, which were all improvised. These acts of improvised alteration were an attempt to shape the wire without a pre-determined plan. (See Fig.13, CAREY, J. (2009) 'Untitled (Wire)' p.91 and Fig. 14. CAREY, J. (2009) 'Untitled (Wire)' p.92)

Fig. 13. CAREY, J. (2009) ‘Untitled (Wire)’ (27cm x 17cm x 35cm)

Fig. 14. CAREY, J. (2009) 'Untitled (Wire)' (35 x 21 x 20)

The wire, in terms of its alteration, had an association with Locke and Cooper, Grzymala and Rothschild's use of linear form. All these artists use existing three-

dimensional forms in their expanded notion of drawing. The sculptures also had an additive strategy, which can also be seen in Locke, Cooper and Gzrymala's work. The existing lines of the wire allowed for a responsive and improvisational strategy, in their alteration. (Rothschild's work does not always have this improvisational strategy in her final forms and after this point her work had a diminished importance to the research investigation). This had the implication, for my practice, of producing form through an additive, improvisational strategy, which was similar to the way a drawing can evolve over time, and thus was evidence of the potential to draw in three-dimensions.

The use of wire to make sculptures has precedents in the field of Fine Art and one of the most renowned is Alexander Calder. He is quoted as saying that he thought "best in wire"[107], when producing his drawings in space. The finding of Calder's drawings in space, together with the work of Cooper, Locke, Rothschild, Grzymala, implied that it would be possible to answer the main question, confirming that drawing in three-dimensions was achievable. This finding influenced the research for some time. Due to this confirmation, a new main question needed to be generated. A preliminary main question explored, "what are the implications, and opportunities, associated with a sculptural practice that is, or could be conceived as, drawing in three-dimensions?" Using this question

[107] CALDER, A (1926-1933) In: LIEGHT, M. *Drawing in space: Alexander Calder: the Paris years, 1926-1933* [Online] Available from: http://www.thecityreview.com/calder.html [Accessed on 23/05/11]

revitalized the research for a while, but eventually needed to be replaced because it was too broad a subject area to research in rigorous detail.

The wire had gravity resistant qualities and the potential for improvisational alterations; the problem was that it could only generate linear form. No matter how it was altered, the properties of the material prevented other types of marks, such as those present in drawing. Locke and Cooper do use linear form, but they also use other types of existing three-dimensional form. Wire's linear nature could describe volume but cannot have volume beyond its linear form, and thus, as a stand-alone material, wire could not make all the forms of marks associated with an expanded notion of drawing. The reason for using a single material in this research was because the singularity was perceived as being able to replicate the immediacy and linearity of drawing. Although this lack of mark variety is sometimes present in drawing it did raise the question of whether Grzymala's practice was appropriate as a case study for the research due to tendency to use linear form. The loss of Grzymala's practice to the research was the reason that later the *sub*-question, "what process, or technique, would allow the qualities associated with improvisation in a sculptural practice?" needed to be re-focused. It also was the reason why the final main question focused on Locke and Cooper and became, "what are the implications, and opportunities, of transferring the improvisational potential of drawing to a sculptural practice, using Diana Cooper and Hew Locke's practices, (2000-2004), as precedents?"

4:4 The testing of expanding foam as a potential material

With the wire's inability to produce forms, or marks, that were not linear, a search for a new material was undertaken. As a result of this search, expanding foam was tested. The foam was sprayed from a can and could produce forms that had the potential to be more than linear. Due to the fact that it was sprayed from a can, foam had a similar gestural process to drawing. The foam, however, could produce other types of mark when the flow of the material was combined. It also dried relatively quickly, so in its mark formation the process could have potentially produced a more responsive improvisation.

Each sculpture grew through a process of spraying the form, which was left to dry, and then another layer was added. This gave the material time to strengthen and opened a potential gravity resistant quality to a form, which could be conceived as a three-dimensional mark*. Conceiving these forms as three-dimensional marks is the potential outcome of sculptural work being categorized as three-dimensional drawing. Monika Grzymala's practice, according to Catherine De Zegher and Cornelia Butler, is a "transformation and evolution of the drawn line into plane, movement, landscape, performance, video and sculptural objects"[108]

[108] BUTLER, C and De ZEGHER, C. *A line to space: Monika Grzymala* [Online] Available from: http://sculpture.org/documents/scmag13/mar_13/mar13_featur. [Accessed on 02/04/13]

Grzymala's transformations, especially in terms of sculptural objects, conceives these objects, or materials as replicating the line in drawing. Due to this, a three-dimensional object, or material is conceived as replicating a type of mark from drawing. Through this idea, other forms, objects and materials could also be conceived as replicating other types of mark. (These forms, objects, or materials could be in theory anything that is three-dimensional). Because of this it is possible to conceive sculpture as drawing and as drawing has two-dimensional marks, a three-dimensional drawing must contain three-dimensional elements that could be conceived as marks.

There was a problem as the foam did not start out as strong material, so temporary supports were used to give each layer time to explore three-dimensional space. This process used a similar additive strategy in the construction of each sculpture. (See Fig.15. CAREY, J. (2009) 'Untitled (Expanded foam)' p.97 and Fig. 16. CAREY, J. (2009) 'Untitled (Expanded foam)' p. 98)

Fig. 15. CAREY, J. (2009) 'Untitled (Expanded Foam)' (30 x 65 x 73cm)

Fig. 16. CAREY, J. (2009) 'Untitled (Expanded foam)' (27cm x 34cm x 67cm)

The gestural application of the foam by spraying was similar to Locke's gestures when he uses a Stanley knife. It also allowed for an additive strategy. Unlike the work of Locke and Cooper, the material flowed out from a can, initially a formless liquid to make three-dimensional marks*. Although the material does have intrinsic form, (in the can), it also has the potential to generate other forms. This opened up an opportunity to sculpt form with a gestural act. Locke and Cooper mostly use materials that are altered, but the process of spraying the foam could be conceived as an additive strategy, which is similar to both artists' procedures.

The expanded foam did produce various types of mark, through a gestural process, which involved an improvisational strategy. It had gravity resistant qualities when dry but when wet it had even less tensile strength than the clay. Due to this it was only possible to draw only in relief* with the foam. To construct marks that could properly explore space, supports were needed and this restricted improvisational potential of the material. Although this could be seen as a restriction, it did slow down the process of form construction down and thus allowed for a more considered approach to building the works. It also had another disadvantage in that the foam expanded in an uncontrolled way. The expansion caused the original marks to alter, which added a sense of jeopardy or perhaps a chaotic element to the process, as if the foam was improvising on its own. (The chaotic element was potentially an interesting quality as it caused the original mark to disappear and become mutated by the materials expansion. Unfortunately, it was an example of the material improvising, not by the practitioner).

The control over the final form was a problem, so a way had to be sought to restrict the foam's expansion. The process developed was similar to the original use of the expanding foam. The new process added cling film around each three-dimensional mark, whilst wet, to restrict its expansion. So allowing the material to remain in the form of the original mark. It also could develop my practice providing the opportunity to sculpt the foam whilst it was in its unhardened state. (See Fig. 17. CAREY, J. (2009) 'Untitled (Restricted foam)' p.100)

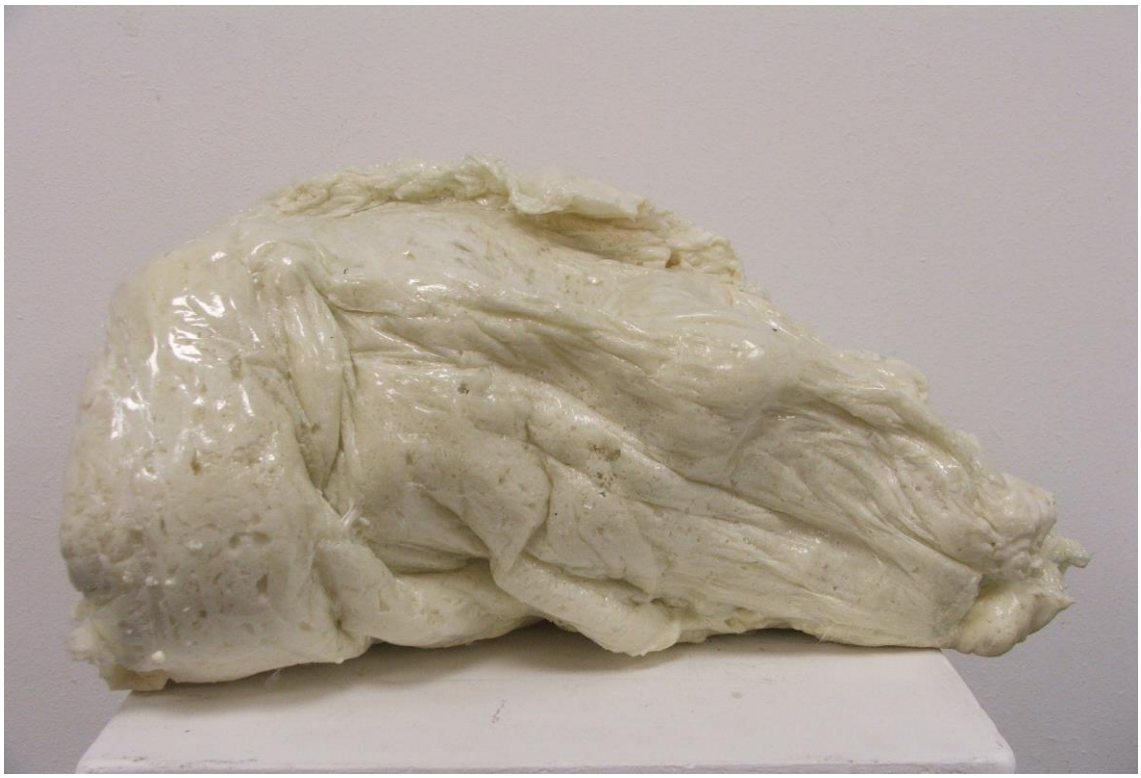


Fig. 17. CAREY, J. (2009) Untitled (Restricted foam) (18cm x 54cm x 27cm)

This experiment was unsuccessful, the foam's uncontrolled growth continued with restriction having little effect. The attempt at restriction did prevent a small amount of the growth, but this was limited. The restriction material, cling film, did provide the ability to sculpt the drying foam, which improved my practice by giving it the opportunity to alter the form.

Overall, the problem of the lack of control over mark –formation, was too difficult to resolve. Another disadvantage with the foam was also similar to the clay experiment. When a material was extruded, its wet form had no real tensile strength. Although the foam did gain strength once dry, when it was first sprayed out it lacked the properties to explore the three-dimensional environment. The lack of this property was another reason why the expanding foam as a potential drawing material was too restricted. Besides this restriction the improvisational, additive strategy used with the foam had potential, but this was diminished due to the unpredictable element. Having the opportunity of an unpredictable element to respond to could have been an interesting variable to include in my practice, but it also had the implication of surrendering some of the control of the final form of my sculptures. In theory this lack of control of the final form could have been seen as an interesting variable in an improvisational strategy but its expansion was too problematic. The problem occurred due to the foam over-riding the considered act of improvisation that produced the forms. This act of improvisation was responsive but also reflective, and this reflective response was lost due to the expansion. From the start of the construction that began with spraying a single three-dimensional shape with the foam, it expanded in all directions losing any resemblance to the sprayed form. Once this 'first' form had dried another form was added that once again lost any resemblance to the sprayed form. Unfortunately this pattern continued throughout the construction of the expanded foam sculptures even when an attempt at restricting this expansion was tried. These forms did not really explore three-dimensional space; they just expanded into it in

all directions. Whether restricted or left to expand on its own, it had little tensile strength to explore three-dimensional space without support. (The support was either improvised by using items around the studio or part of the restriction produced by being wrapped in cling film). With all these problems especially the expansions ability to over-ride the results of the reflective improvised act, the foam was classed as too problematic to continue making work.

4:5 The testing of aluminium foil as a potential material

With expanding foam being problematic, I proceeded with a more manual approach to the use of the materials. This was because the clay and expanded foam used mechanical devices to generate form, which restricted their potential, so a more hand orientated approach seemed appropriate. Both Locke and Cooper alter materials, in their practices, and as these materials already exist in three-dimensions, tensile strength is less of a problem. Although Locke and Cooper accumulate, using many types of materials at the same time the search to find one material was key to my sculptural practice and drove the research because it could replicate immediacy of drawing.

The next material that was tested was aluminium foil. Although this material starts out as a thin sheet, with little or no tensile strength, it can be altered into many forms. The foil's alteration could have been described as a violent form of origami*, where sheets are folded, twisted, and beaten to produce different forms.

This potential to produce various forms quickly and easily was the reason that aluminium foil was tested.

Each foil sculpture started out as a sheet on a roll. This was then unrolled slowly whilst being altered through folding, twisting and beating the foil. Each mark was constructed in response to the last, whilst being connected by to the sheet. If it was seemed appropriate, the end of the roll could be woven into the last to produce longer strings of form*. These strings were sculptures that had a set of connected marks* that could explore three-dimensional space. (These sculptural strings evolved in complexity over several works, which improved their potential for the exploration of space). (See Fig.18 CAREY, J. (2009) 'Untitled (Aluminium foil)' p. 104 and Fig. 19 CAREY, J. (2009) 'Untitled (Aluminium foil)' p. 105)

Fig. 18. CAREY. J. (2009) 'Untitled (Aluminium Foil)' (36 x 47 x 89cm)

Fig. 19. CAREY, J. (2009) 'Untitled (Aluminium foil coloured)' (15cm x 15cm x 44cm)

The linear parts of the string are similar to Locke's wall reliefs, but are used in an additive strategy, which was far more improvisational. This gave the metal sheet the opportunity to become more than just two-dimensional, giving it the chance to expand into three-dimensional form. The alterations to the aluminium foil could be seen as a process, which mutated the form. The mutation of form is a strategy, which Cooper uses in her practice. Using this strategy has the potential for improvisation, in the construction of individual forms, as well as in the production of the sculpture, in its entirety. It did this by opening up the opportunity for deviation from pre-determined plans during the creative process.

Although I discovered the potential to use improvisational strategies with the aluminium foil, there were problems. Foil was a material that could be altered to construct three-dimensional forms, or marks, but the strings had a bias towards linear form. Unfortunately this bias inhibited the potential for improvisation, by restricting the variety of the forms produced. The material had certain gravity resistant qualities, in its string form, which allowed for an exploration of three-dimensional space. Due to this, the strings of marks could not only describe volume, but also possess volume itself. The major problem was the string itself. The marks' connections solved the problem around tensile strength and gravity resistance, but it had problems, in terms of improvisation. This was because the potential positioning of these forms could not be truly improvised due to their connections to one another. (In theory this could be seen as drawing without the ability to take the drawing instrument off the surface, which can produce improvisation, but inhibits the positioning of each mark in relation to each other).

These works had the implication to improve my practice by generating strings of different marks, through an additive strategy, which allowed for mutation. This allowed me to explore three-dimensional space with the various types of marks, without the need for a support structure. Although the strings linear bias limited the potential positioning of the marks in my practice it did produce unified structural forms.

4:6 The construction of three-dimensional environments in resin

The problem of the need for connectivity between improvised marks generated a new *sub*-question, which was, "what material could construct a three-dimensional environment that allows for the three-dimensional mark to exist in isolation?" For the mark to exist in potential isolation from other marks it would need to float in three-dimensional space. This ability to float, or levitate, is of course impossible to achieve in an artistic construction (or at least without serious scientific intervention). An armature could solve this problem but its visual and physical qualities would produce connections that would defeat the objective of the *sub*-question. Without an armature or levitation, the space itself would need to become the support structure, which in normal circumstances would be impossible. What was required was a way to solidify space, which could potentially freeze the isolated mark in three-dimensional environment. It was because of this requirement that the potential of resin as a material was conceived as a solution.

The clear casting resin could generate a block, which could be conceived as solidified space*. It, (in essence), could operate as a clear three-dimensional 'armature' where marks could exist in isolation from one another without the need to be directly connected. Although the resin would make a physical connection, it would allow marks to exist in perceived isolation similar to how marks can exist on a page or surface.

The first resin block sculptures were produced using commercial moulds*. These small blocks needed a process of layering to fill each one as the casting resin needed to be added in thin layers to prevent cracking due to overheating. (See Fig. 20. Mixing the resin p.108 and Fig.21 Pour the resin...p109)

Fig. 20. Mixing the resin. (Add 2-3% catalyst, per volume, then mix)

Fig. 21. Pour mixed resin into the mould in one to one and a half centimetre layers.

This layered construction functioned as an additive strategy that gave the opportunity for marks to be added whilst freezing them in space. (In this test phase wire was used as the marks). (See Fig. 22 Adding the inclusion after the resin is poured into the mould. p. 110 and Fig. 23 Once the layer is set, (normally twenty-fours hours), another layer can be added. p. 111)

Fig. 22. Adding the inclusions after the resin is poured into the mould. (The inclusions, which are shown here, were made from black wire).

Fig 23. Once the layer is set, (normally 24 hours), another layer of resin can be added.

The layering process became cyclical, with a thin layer being added, then left to set before another layer was added. (In this test phase wire was used as the marks). This cyclical process allowed for the slow accumulation of the resin until it filled the mould, whilst allowing for the addition of wire inclusions to be frozen in a solidified space structure, the resin represented. A solidified space, which became the environment for these marks freezing their forms in a medium thicker than the air. (See Fig.24 CAREY, J. (2010) 'Untitled (Resin)' p.112 and Fig. 25 CAREY, J (2010) 'Untitled (Resin)' p. 112)

Fig. 24. CAREY, J. (2010) ‘Untitled (Resin block)’ (18cm x 11cm x 3cm)

Fig. 25. CAREY, J. (2010) ‘Untitled (Resin Blocks)’ (Various sizes)

This technique used an additive strategy, which Locke and Cooper use. It produced a process that had an accumulative quality, which gave the opportunity for improvisational positioning.

The opportunity for the freezing of the independent isolated mark was achieved by using the resin as a solidified space armature*. Each wire inclusion did not need a direct connection to another so they could exist, and explore three-dimensional space. Without the need for this connection, the mark had the opportunity to describe volume in a three-dimensional environment, whilst existing within it. This environment also allowed for the marks to be positioned in a responsive improvised way.

The technique had a potential problem caused by the layering process due to the time between pouring. The time frame between pourings was a potential disadvantage, in terms of improvisation, because it was a slow process, but it also could have been seen as an asset. It limited the type of improvisation that comes from spontaneous impulse generated the opportunity to improvise through a process of reflection. This reflective improvisation still responds and allows for improvised changes to occur. It is just not done impulsively and improved my practice with a more considered approach.

As the commercial moulds could only contain small amounts of resin and thus made small sculptures, so a solution needed to be found to increase their scale. A potential solution was tested, which was constructing larger work with multiple

blocks. (These blocks were stuck together with a thin layer of the resin). (See Fig. 26-27. Step 1 and 2. p.114)

Fig. 26. Step 1. First brush both surfaces, which are to be adjoined, with casting resin. (See. Fig. 20. For resin mixing ratio. p.109).

Fig. 27. Press both brushed surfaces together.

This process enabled the construction of work by adding blocks together. (See Fig. 28. CAREY, J. (2010) 'Untitled (Resin Combination)' p. 115 and Fig. 29. CAREY, J. (2010) 'Untitled (Combination)' p. 116)

Fig. 28. CAREY, J. (2010) 'Untitled (Resin Combination)' (15 x 15 x 12cm)

Fig. 29. CAREY, J. (2010) ‘Untitled (Combination)’ (10cm x 10cm x 45cm)

The additive process of layering stayed remained stable for each small resin block. The difference for the sculptures occurred when the blocks were adjoined, which opened the possibility to construct larger works. As the resin naturally adheres to itself, this easily achieved, so the construction of these larger works went smoothly. Using this type of construction with the blocks enabled a simple building process with the final form, similar to how a child uses toy plastic building blocks. As before, the process utilized the additive strategy similar to Locke and Cooper, but with the greater amount of construction there was an extra element of addition.

Although the final works were larger, the potential improvisational positioning of the wire inclusions was still restricted due to the volume of each individual block. This restriction was caused by the small volume capacity of the commercial moulds. The simple solution to this was to construct moulds specifically for the work that could contain more resin. Constructing specific moulds also opened up the opportunity to use more irregular forms that were unavailable in the commercial moulds. With the production of the moulds, the blocks also could be larger which would increase the block's volume and allow for more improvisational positioning.

The construction of moulds was a newly added process to the work. The forms for the moulds were made out of clay, and then moulded in a vacuum-forming machine. These plastic moulds were then used in the same additive, layering process as before. The resulting resin blocks could then be constructed into larger

organic forms gluing them together. This organic nature of the blocks also mirrored the twisting form of the wire inclusions. (See Fig. 30. CAREY, J. (2010) 'Untitled (Organic Mould)' p. 118)

Fig. 30. CAREY, J. (2010) Untitled (Organic moulds) (33cm x 12cm x 27cm)

This had the implication for my sculptural practice to include more organic, irregular forms that could relate to the wire inclusions within them. These forms also expanded the potential scale of each sculpture, which gave the inclusions the opportunity to be frozen in a less confined environment.

4:7 The development of a moulding technique

The specifically constructed moulds allowed for larger volume of resin, whilst allowing for more improvisational positioning of the wire inclusions inside. They could been conceived solidified space structures, where responsive, improvisational positioning could occur. There was, however, an issue, in terms of how much improvisation or response, could take place. Inside the solidified space, the improvised mark could be responsively positioned but the form of the resin blocks was fixed. Although the form could be constructed through an improvisational strategy once the mould was made it could not change. As improvisation is at the centre of my research practice, the fixed form was impairing my potential to respond. Due to this, the fixed form of the resin block was seen at a disadvantage. If the block could not respond to the inclusions or marks inside the work's evolution was limited. At this point that a new *sub*-question was generated, which was, "is it possible to develop a moulding technique, which allows for responsive, improvisational alterations?" (The word moulding*was used instead of casting* because the former describes the act and process of shaping form as well as the making of the mould*, whilst the later has the definition that does not include the making of the mould). This is a problem that is common throughout moulding techniques that is once the mould has been made its form is fixed. Although minor alterations may happen, such as those that occur naturally like expansion, there is no possibility to radically alter the mould's

form. In many moulding processes, this is not a problem; in fact the processes non-variability is considered to be an asset. Unfortunately for this research, where the resin block cannot respond to the inclusions it became a handicap. If the resin block could respond in this way, it would allow the opportunity to explore three-dimensional space, rather than act as a solidified version of it.

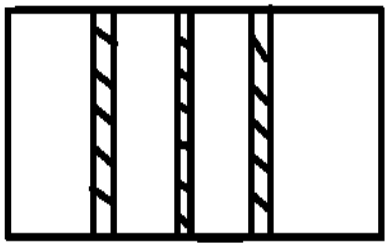
Without real precedents of a mould that can radically alter its form, in the field of moulding an appropriate technique needed to be developed. The solution to this came from the properties of the casting resin. Resin needs to be poured in thin layers and then left to set, or it will crack. These layers can slow down the process of pouring, but can produce an opportunity. If the mould needed to be only large enough to accommodate a thin layer, it could potentially alter after the layer was added. The problem was how to construct a mould that can grow, and what material to use. The solution to this was cellulose tape. The tape does not react with the resin and it also allows for the heat to radiate out, whilst having the ability to flex slightly to accommodate expansion. The potential additive ability of a tape mould* had the implication of solving the disadvantage of fixed mould forms. This discovery opened up the opportunity for a new property to the moulding process, in terms of the ability to respond in an improvisational way to what has occurred before. It also improved the potential development of my practice.

The moulding technique is quite simple in its application. It is simply a set of overlapping pieces of tape, made into to a hollow form. Once the form has been filled the resin in it, it can be enlarged by another set of overlapping pieces of tape.

This process of mould formation, pouring, and mould enlargement can then continue until the sculpture is finished. (See the diagrams below and following photos Fig. 31-39. Steps 1 -7b. p.122-27).

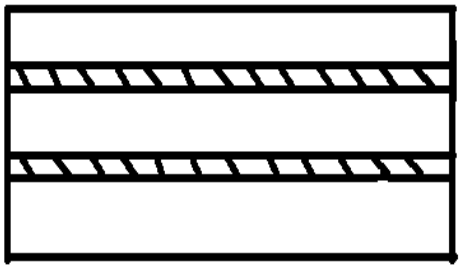
NEW MOULDING TECHNIQUE FOR RESIN

STEP 1



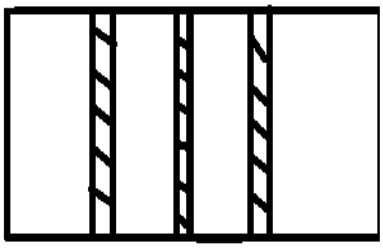
Join overlapping strips of cellulose tape, adhasive side up, to form a sheet.

STEP 2



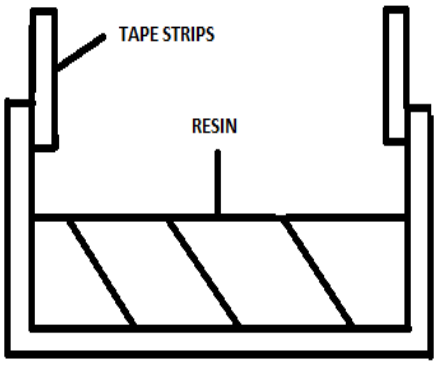
Add another layer of overlapping strips of cellulose tape, adhesive side down, to the sheet in the opposing direction of the first step of strips.

STEP 3



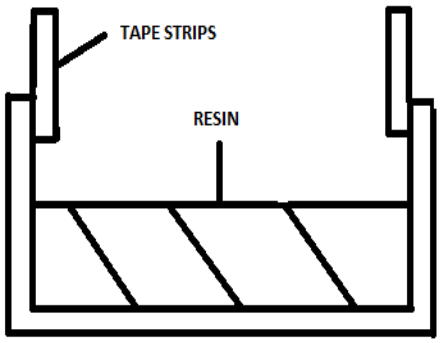
Add a final layer of overlapping strips of cellulose tape, adhesive side down, to the sheet in the original direction of the first set of strips.

STEP 4



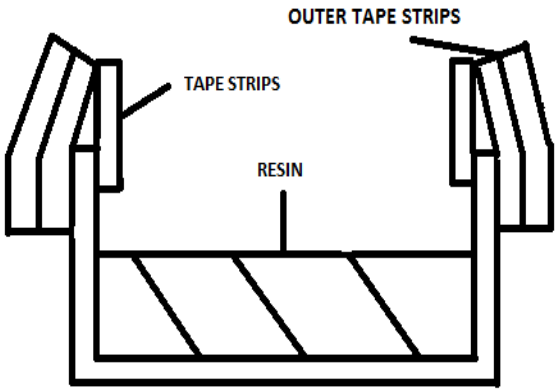
Create the form for the mould out of the sheet of cellulose tape, then add polyester casting reesin and allow time to set.

STEP 5



To alter/increase the size of the mould add cellulose tape, in strips, to the entire edge of mould. (Adhesive side facing outwards)

STEP 6



Add two layers of cellulose tape placed in alternate diections to the ouside edge of the mould. (Adhesive side facing inwards)

STEP 7

To continue altering/ increasing the size of the mould and cast form, add another layer of polyester casting resin and allow to set. Then repeat the steps five, six and seven.

This new moulding technique is also shown in the photographs below. (Fig. 31-39. Steps 1-7b)

Fig. 31. Step 1. Join overlapping strips of cellulose tape adhesive side up to form a sheet.

Fig. 32. Step 2. Add another layer of overlapping strips of cellulose tape adhesive side down to the sheet in the opposing direction of the first step of strips.

Fig. 33. Step 3. Add a final layer of overlapping strips of cellulose tape adhesive side down to the sheet in the original direction of the first set of strips.

Fig. 34. Step 4a. Create the form for the mould out of the sheet of cellulose tape.

Fig. 35. Step 4b. Add the polyester casting resin and allow time to set. (Normally 24 hours). (See Fig. 20. For resin mixing ratios. p.109).

Fig. 36. Step 5. To alter/increase the size of the mould add cellulose tape in strips to the entire edge of the mould. (Adhesive side facing outwards)

Fig. 37. Step 6. Add two layers of cellulose tape place in alternate directions to the outside edge of the mould. (Adhesive side facing inwards).

Fig. 38. Step 7a. To continue altering/ increasing the size of the mould and cast form, add another layer of polyester casting resin and allow to set. Then repeat the steps five, six and seven.

Fig. 39. Step 7b. Once the sculpture is complete the cellulose tape mould can be striped away from the finished form.

4:8 The production of the first sculptures using the moulding technique

The first sculptures produced with the moulding technique were small, due to the need to experiment with the process. (See Fig. 40 CAREY, J. (2011) 'Untitled (Crystal Resin)' p.128 and Fig. 41. CAREY, J. (2011) 'Untitled (Crystal Resin 2)' p. 129)

Fig. 40. CAREY, J. (2011) 'Untitled (Crystal resin)' (15cm x 11cm x 23cm)

(Photographed in potential exhibition conditions)

Fig. 41. CAREY, J. (2011) ‘Untitled (Crystal Resin 2)’ (20 x 15 x 31cm)

The additive process of layering, adding inclusions, and then enlarging the mould worked successfully. There were problems of leakage, but this was about the application of the technique, rather than the process and this became less of a problem with experience. Although the sculptures were small with limited alterations during the test phase they did prove that the technique worked. At this point, I classed it as a success if the process allowed expansion, or contraction, of the mould's overall form. The simple fact that alterations were possible proved that the technique had the potential to develop my research.

Although the moulds that I used for the first sculptures had the ability to enlarge, and contract, their potential responsive, improvisational qualities were limited. This limitation was not a problem, as these first sculptures were tests for developing the technique. In terms of the *sub*-question, I had realized the potential to transfer an improvisational quality to a moulding practice. The new technique utilizes an additive, improvisational strategy, which is similar to how Locke and Cooper work. It also demonstrated the potential for the mould's form to mutate due to improvisational enlargement by employing a strategy similar to Cooper's. These new strategies opened up the opportunity to use an improvisational process in mould formation.

With the confirmation of moulding techniques viability confirmed, the next set of sculptures was constructed, in an attempt to improve the process. Not only were these pieces larger, the technique also allowed for their forms to be improvised to

a greater extent. (See Fig. 42 CAREY, J (2011) ‘Untitled (Void)’ p. 131 and Fig. 43. CAREY, J. (2011) ‘Untitled (Elongated)’ p.132)

Fig. 42. CAREY, J. (2011) ‘Untitled (Void)’ (18cm x 13cm x 61cm)

Fig. 43. CAREY, J. (2011) ‘Untitled (Elongated)’ (25 x 20 x 84cm)

These forms grew and expanded, beyond the simple formations that resembled crystals. The additive strategy, which gave the form the chance to mutate, improved my practice with the opportunity to think responsively, whilst improvising three-dimensional form into being. These forms grew, becoming new more complicated formations, which had the potential to take on any shape that the mould could produce. These works confirmed the future potential of the technique in terms of including its potential for improvisation in my practice.

4:9 The search for a new material for the inclusions

Although leakage was still a problem, with greater experience in the applying the technique, the problem was diminishing. As these were the first tentative steps, the expansion of the mould was still a problem, but this decreased over time. With the technique showing it could be a potential solution to the *sub*-question an old problem emerged, which was, what should the inclusions, or marks, be made from? Throughout the entire time of using the resin, wire inclusions were used. This was due to the experimental nature of discovering a process to generate a solidified space or resin block. The inclusions were there to test the viability of the resin block armature. The armatures viability was tested and confirmed during the early stages of using the resin. The use of the layering process to construct larger work in the resin allowed the inclusions to be positioned within each layer. Positioning the inclusions in this way allowed them to exist in what could be

conceived as isolation. Although the resin block was a physical connection the inclusions were isolated from one another, within the solidified space armature. This perceived isolation was confirmation that the resin block could be used as a three-dimensional armature for the inclusions to be positioned in of what could be conceived as solidified space. Earlier, in the research wire had been discounted due to its inability to generate non-linear form, so for the next works a new material for the inclusions needed to be found to achieve a fully three-dimensional object. The problem with finding inclusions for the resin was that resin can react with certain materials. Many materials were tested, such as different types of plastic, and coloured clay, the process providing an opportunity for my practice to expand into a variety of different forms. (See Fig. 44 CAREY, J. (2011) 'Untitled (Inclusion Test)' p.134 and Fig. 45 CAREY, J. (2011) 'Untitled (Coloured Clay') p. 135)

Fig. 44. CAREY, J. (2011) 'Untitled (Inclusion Test)' (15 x 10 x 3cm)

Fig. 45. CAREY, J. (2011) 'Untitled (Coloured clay)' (19cm x 17cm x 56cm)

The technique for the second stage of exploring resin moulds as previous experiments used was the same but the inclusions added were different. Some failed due to their reaction to the resin, but others were more successful. Whilst these tests were taking place the moulding technique continued to develop its potential for responsive, improvisational form production. By continually using the technique I finally solved the leakage issue due to the increased experience.

4:10 Are the inclusions necessary?

Although the technique developed, and potential materials for the inclusions were found, a problem arose. This problem was based on what the improvised moulded block represented. If the blocks began to suggest improvised three-dimensional form were the inclusions necessary? It was this train of thought that raised the *sub*-question, " as the new moulding technique produces improvised three-dimensional forms, are the inclusions necessary?" As the blocks were improvised three-dimensional form, they could also be conceived as three-dimensional marks. As the experiment confirmed, the inclusions became unnecessary because I decided that the blocks themselves constituted the improvised form that the research sought to produce. I purpose that these three-dimensional forms could be seen as replicating the marks employing an expanded notion of drawing, so the inclusions were an unnecessary addition. This opened up

the opportunities for the generation of an increased variety of improvised forms practice achieved more flexibility in the mutation of the mould's form, because volume was not required to contain the inclusions.

Without need for the inclusions, new pieces were produced using the moulding technique, (minus the inclusions). This allowed my practice to construct pieces that became bolder in their potential to produce responsively improvised form and provided the opportunity to construct three-dimensional marks that replicated the mark in drawing, which the inclusions once represented. These mark-forms became the sculptural equivalent of the mark by establishing mass, and therefore able to exist in three-dimensional space. (See Fig. 46 CAREY, J. (2012) 'Untitled (Resin With No Inclusions)' p. 138 and Fig. 47. CAREY, J. (2012) 'Untitled (Resin With No Inclusions 2)' p.139)

Fig. 46. CAREY, J. (2012) 'Untitled (Resin with no inclusions)' (18cm x 31cm x 37cm) (Photographed in the lighting conditions of a gallery for a potential exhibition)

Fig. 47. CAREY, J. (2012) 'Untitled (Resin No Inclusions 2)' (20 x 18 x 39cm)

(Photographed in the lighting conditions of a gallery for a potential exhibition)

This simplified the generation of form and gave the improvisational, additive strategy more scope to produce mutation. In essence, the solidified space was no longer an armature; its mutated form had transformed into the mark-form.

The only drawback with the technique was that the forms could not exist in isolation from one another. (Or at least during the mark-form generation process). The need for this isolation was the reason the solidified space armature, (the resin block), was used in earlier work. Its intention was to allow the 'mark' to exist in what could be conceived as isolation in three-dimensional space. (Although the resin block would always be a physical connection). The inclusions within the blocks was an attempt to position marks in three-dimensional space in a way which was similar to how a mark can exist without being connected to other marks on the surface in drawing. The process did produce a similar result by allowing this isolation but by this point of the research it was not a high priority for transference to my sculptural practice. This was because the research had become focused on the improvisational strategies of addition and mutation rather than transferring any other specific elements of drawing to my practice. With this being the focus my practice had evolved in a way that did not allow the mark-forms to be isolated. Due to this development isolation for the mark-form became of less importance and the idea was discarded due to the direction the research had taken. However many sets or single mark-forms, could be made to produce multi-part constructions to solve this issue. (Although they cannot be frozen in solidified space).

4:11 Could concrete be used in conjunction with the moulding technique?

Although the technique worked successfully with the resin, there is a potential disadvantage in terms of the time it took to produce sculptures. The need to pour the resin in thin layers meant a piece could take many months to complete. This was not a major problem as the mark-forms are still produced through responsive, improvisational strategies, but the question remained whether a material could be found that would accelerate the process? The resin started out as a clear block of solidified space, which contained internal inclusions, so with no inclusions, was the resin still necessary? This generated a new *sub*-question, which was, "as the inclusions are unnecessary, what other materials could be used in conjunction with the moulding technique?" Without inclusions materials did not need to be clear, so this expanded the opportunities. The only restriction on a potential material was it had to be receptive to the tape mould.

Various materials were then tested with the technique. To test their viability a mould was made for each new material and a few layers were added. Plaster was the first material that was tried. Once three layers were poured, (one per day), the mould was removed and it was found that the plaster layers did not adhere to one another. Due to this adhesion problem plaster was classed as an unsuccessful

material. A similar thing occurred when silicon rubber was tested and thus also was classed as unsuccessful. The third material that was tested was silicon sealer, which did not get past the first layer. This was because the silicon sealer did not dry in the mould. A single layer of the material was given a fortnight to dry and due to it still being tacky it was discarded as a potential material. The fourth material that was tested was concrete that seemed to work in conjunction with the new moulding technique.

Reviewing the first sculptures made from concrete, it was clear that concrete accelerated the process for making larger sculptures. These pieces only a week to construct and were of a substantial size compared to what could was produced using resin in a similar time frame. (See Fig. 48. CAREY, J. (2012) 'Concrete 1' p.142 and Fig. 49. CAREY, J. (2012) 'Concrete 2' p.143)

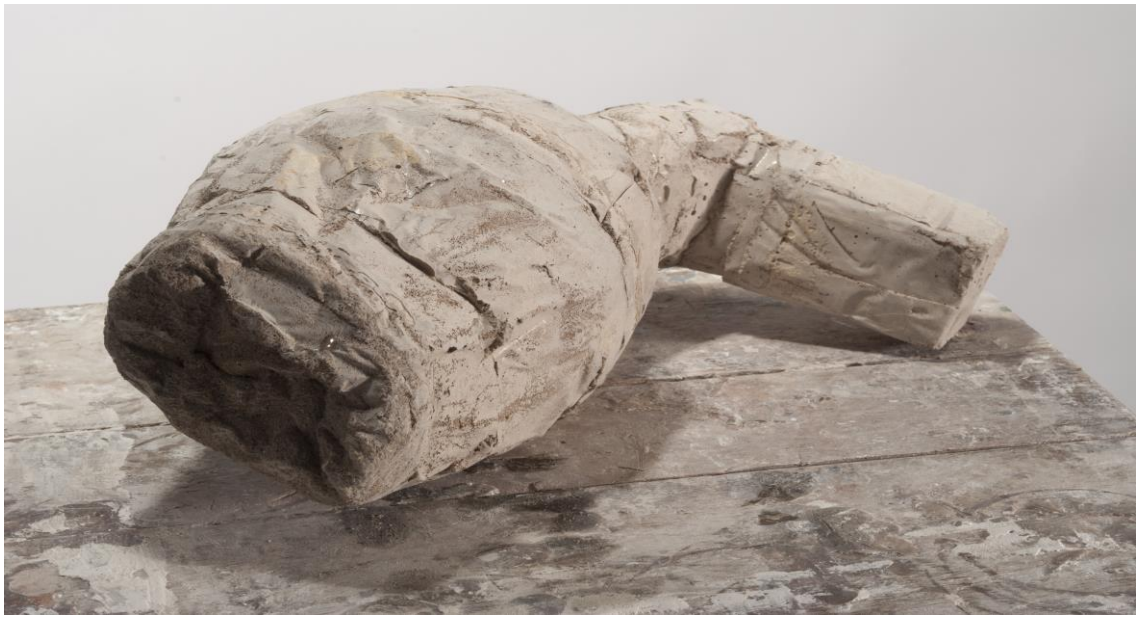


Fig. 48. CAREY, J. (2012) 'Concrete 1' (34cm x 22cm x 14cm)

Fig. 49. CAREY, J. (2012) 'Concrete 2' (83cm x 30cm x 27cm)

The improvement enabled complete mark-forms to be made in a single pouring, while still allowing for the production of responsive and improvised mark-forms, which could relate to one another. The pouring process produced a single mark-form, then this set, another version could be added. This changed my practice from a long gradual process into a fast, experimental technique, which utilized the improvisational strategies of addition, and mutation.

The only limitation, foreseen at the outset of the work, was that the concrete would need to be reinforced. A wire armature was necessary to strengthen the bonds between layers of mark-form, was not the same as when an armature was used earlier in the research as it was less restricting because the wire armature could be embedded after pouring a mark-form layer*. The embedding of the armature did cause a certain amount of restriction as the concrete form needed to have sufficient volume to allow the embedding process. This impairment could be

reduced by bending the wire embedded in the previous mark-form, in response to the construction of the next layer of the mould.

The potential of the concrete allowed an expansion in the scale the next two works. Although there was a potential limit to the scale due to the weight of the concrete and the need for mobility was not insurmountable as I limited the scale of the sculptures so that I could move each work by myself. (See Fig. 50. CAREY, J. (2012) 'Concrete 3' p.145 and Fig. 51. CAREY, J. (2012) 'Concrete 4' p.146)

Fig. 50. CAREY, J. (2012) ‘Concrete 3’ (34cm x 36cm x 89cm)

Fig. 51. CAREY, J. (2012) ‘Concrete 4’ (47cm x 19cm x 80cm)

It was still a multi-stage process with the technique improving as more sculptures were made. The work still had the same successful qualities of the resin, but the production of entire marks as forms opened up the opportunity for the scale to be increased. In a matter of weeks large sets of mark-forms could be made emerging through the process. The potential complexity of each piece was still limited, but the works showed that the concrete was receptive to the technique and generated larger work.

It was only when 'Concrete 5', (See Fig. 52. CAREY, J. (2012) 'Concrete 5' p.147), was produced that the cracks started to appear.

Fig. 52. CAREY, J. (2012) 'Concrete 5' (23/07/12) (57cm x 37cm x 69cm)

Concrete 5 was initially in process created like the others, but I embedded an additional support to the elongated part at the top to prevent gravitational problems. This was because the tape mould did not have the strength to support the wet concrete. The mould was thickened with thicker layers of tape but this did not seem sufficient. The problem intensified, when the mould was removed and I discovered that the concrete did not have sufficient tensile strength to be self-supporting. The support problem arose because the concrete had only partially cured in the mould. The problem with the concrete curing seriously compromised the tensile strength of the fresh concrete form, and this caused the elongated part of this piece to fracture, an issue arose, if the form did not have the strength to support itself, it would compromise the subsequent generation of improvised mark-forms.

I produced more concrete works with the hope that the problems could be solved. (See Fig. 53. CAREY, J. (2012) 'Concrete 6' p.149)

Fig. 53. CAREY, J. (2012) ‘Concrete 6’ (91cm x 27cm x 57cm)

The broken bit, from the ‘Concrete 5’, (Fig. 52), was embedded into the main body of the new piece, ‘Concrete 6’. (See Fig. 53). The embedding of the broken bit demonstrated that, once dry, there was an opportunity to produce less volumetric mark-forms, which could survive as long as they were incorporated into wet masses of concrete before the material solidified. Although support was needed to position the broken part, the mass did have the strength to support it when the part was removed from the mould. This provided the opportunity to generate multi-part, multi-stage sculptures in concrete that could solve the problem of things snapping under their weight. To do this each part could be made separately that would allow the concrete to be stronger due to it being fully cured. These parts could then be joined together by connecting them via masses of wet concrete

that then was left to cure. The part's exact position within each piece would potentially need some support that could be made from any material or just an object that is lying around. These supports would help and alter the potential positioning of the parts by allowing them to be connected to areas, within the wet mass of concrete that could not achieved without the help of the supports.

The concrete was showing the need for more support and three more works were produced to resolve this issue. (See Fig. 54. CAREY, J. (2012) 'Concrete 7' p. 151, Fig. 55. CAREY, J. (2012) 'Concrete 8' p.152 and Fig. 56. CAREY, J (2012) 'Concrete 9' p. 153)

Fig. 54. CAREY, J. (2012) ‘Concrete 7’ (04/08/12) (73cm x 67cm x 87cm)

Fig. 55. CAREY, J. ‘Concrete 8’ (12/08/12) (47cm x 58cm x 61cm)

Fig. 56. CAREY, J. (2012) 'Concrete 9' (17/08/12) (63cm x 36cm x 35cm)

These works concentrated on testing the use of supports for the mould, both internally and externally. Using these supports worked, but it also added a new variable in the generation of the mark-forms. The support did cause a new variable because the external support shaped the mould from the outside and so added an unknown element to form generation. This added element could have been a great opportunity for the development of the research, but it came with drawbacks. The need for external support required a certain amount of planning. Although the planning tended to be improvised, and within the process, it did restrict the possibilities of producing certain types of mark-form.

Overall, the concrete did work with the moulding technique, but with disadvantages. The main problem was the concrete's inability to fully cure within

the mould and the associated issues of strength. In retrospect, this could have been because the sculptures were not left in the mould for long enough. This problem could be solved with increased support, and the production of multi-part, multi-stage works, but even with these improvements, there was impairment in the mark-form generation. The impairment in mark-form generation did limit the potential of transferring improvisational strategies, to the works, but the transference could be achieved by producing the mark-forms separately so they could exist in isolation from one another. The concrete demonstrated imperfection with regard to the moulding technique, but enabled my practice to construct sculptural objects that started from an empty mould and then grew through an additive strategy to their complete forms. Despite these problems, the moulding process had a positive impact on my practice. I purpose that the strategies that created this improvisational moulding are new, and have the implication of expanding my practice and provide the opportunity to use different materials.

4:12 The continuation of the research

Although the pieces made of concrete were the last to be constructed for this research the testing of different materials continued. One material that has shown potential, is a thermoplastic* called Polymorph*. It starts out as white plastic granules that can be melted in water that is above sixty degrees centigrade. When the granules melt they become a sticky gel that can be used in conjunction with the moulding technique. This sticky gel cannot be poured into the mould but it can be

pressed into it so it can assume its shape. Once pressed into the mould another layer can be added similar to how the moulding technique works with the resin and concrete. The thermoplastic, however, allows for a new layer to be added immediately so it gives a significant improvement in terms of the time frame it takes construct artwork. (Although is it not poured and layers can be added in a shorter time frame the basic moulding technique is exactly the same). Due to this shorter time frame between the addition of layers a small sculpture can be made in a day. (See Fig. 57. CAREY, J. (2013) 'Polymorph 1' p.156)

Fig 57. CAREY, J. (2013) ‘Polymorph 1’ (On Plaster of Paris display base) (20cm x 11cm x 28cm)

This new material has great potential for use with the moulding technique. Due to its potential to accelerate construction it could possibly be the future of the research. It is also evidence that the moulding technique is flexible enough to potentially work with different materials. Although the thermoplastic is the main focus at this moment the research might be able to expand by using different materials in the future. (At this time no other potential materials have been tested).

4:13 The final exhibition

The works in concrete were made at the end of the research period and formed the final exhibition. These were shown in a studio at De Montfort University at the end of the summer term of 2012. (See Fig. 58- 61. p. 157-159)

Fig. 58. Exhibition at De Montfort University (28/08/12)

Fig. 59. Exhibition at De Montfort University (28/08/12)

Fig. 60. Exhibition at De Montfort University (28/08/12)

Fig. 61. Exhibition at De Montfort University (28/08/12)

I made the decision to mount the sculptures on plinths for the exhibition, because of the size of the pieces. If they were positioned on the floor the viewers would not view the pieces as I saw them during their construction. With this in mind each sculpture was positioned in the room on bankers. These are used in ceramics, and were the surfaces that the works were constructed on. The bankers were the part of the studio where they were made and by using these as plinths part of the studio was brought to the exhibition space. As one aim of the research was to develop my practice, it seemed apt that a part of the studio should be on display at the exhibition.

Each concrete piece and plinth was arranged around the room, in non-chronological order. Although it was possible to produce an exhibition that was in

chronological order, their positioning was informed by aesthetics. The temporal walk around or positioning the sculptures so the viewer walk around the space and see them in order they were made was tested, but through improvisation in the curatorial process, this was not as visually effective. The final order of the sculptures was not classed as the definitive positioning for the works, but aesthetically it seemed the best for the specific room.

4:14 The discussion on the final exhibition

The exhibition gave the opportunity not only to show the work but also to have a critical discussion on the merits of the research and its results. The discussion was with a group of De Montfort University tutors and students. It was an opportunity for my peers to see an exhibition of my artwork and voice their opinions on it. The purpose of this discussion was for me to hear different perspectives on my artwork and the research that created it. (Unfortunately this was the only opportunity for this to happen due to the loss of the work). These perspectives were meant to give new insights into the research to help me when writing my thesis. The main points which were discussed was the work's relationship with the improvisational strategies and how it could be associated with Locke and Cooper's practices, improvisation and its link to spontaneity and how it was exhibited.

It was asked how the work could be associated with Locke and Cooper's practices and in particular their improvisational strategies of addition and mutation. This point was due to the association that could be missed because no specific techniques were taken from either artist. It was explained that the goal of the research was to adapt their improvisational strategies for use within my practice and it is through these strategies that the work could be linked to Locke's and Cooper's. Also, the use of these strategies could conceivably associate my practice with their expanded notion of drawing due to the utilization of these strategies within the three-dimensional mark-making process. Locke's and Cooper's practices could also be associated with my practice due to the potential to describe their work as existing within the realm of sculpture.

The relationship of improvisation to spontaneity and how it affected my approach was also brought up that prompted a short discussion. I explained that spontaneity does occur in some impulsive improvisational approaches but the type of improvisation that I utilized came from a more reflective, considered approach. Also by not being impulsive and utilizing this reflective approach the duplication of similar forms could potentially be avoided, which was also a concern that was aired.

The presentation of the exhibition was also inquired about. It was asked was it an exhibition of individual pieces, an installation, or a three-dimensional drawing? They also asked why were they were on bankers? I told them that each work was an individual piece and the idea behind the bankers was that it brought part of the

studio to the exhibition space. (Although it was admitted that seeing them as an installation or a three-dimensional drawing was an interesting concept).

The exhibition and the individual works were in general well received. Although many of the group had many questions, the exhibition itself was considered a successful representation of the research. The raw, unfinished look of the concrete masses was seen as bold in its simplicity. This also gave credibility to claim that these works were more about the process that made them, rather than the finished artifact. They thought bringing part of the studio to the exhibition space by using the bankers reinforced this idea. Using the bankers also was seen as making the individual pieces gel together to create a cohesive body of work whilst linking to the process and the studio.

5:Conclusion

The methodology used for this research was based upon Schön's theory of reflective research. These reflections both in, and on, actions (Schön, D 1983), enabled the research to form a creative dialogue, which allowed for a smooth development of my practice. This was achieved by using the performative perspective, (Borgdorff, H. 2006), which generated results from a direct engagement with the artistic process. Through this direct engagement, the reflective process gained greater insight into the creative process, and enabled tacit knowledge to be used in the generation of results. The use of a practice-based methodology was essential for this particular research as the goal of the inquiry was to develop a sculptural practice. Due to this, my practice needed to evolve through practical experimentation and this would have been difficult to reproduce with other types of methodologies, which would create a separation between research and the researcher. This lack of separation in the performative perspective allowed for a reflective insight into the finished sculptures and the creative process.

This practical form of investigation worked extremely well for the research inquiry. Other methodologies would not have allowed the freedom to explore and experiment in a practice-based environment. Through employing the practice-based methodology I was able to reflect the creative environment and its reflective

processes, generating a journey of knowledge production, which was appropriate for this type of research.

The first works that were constructed during the research were made using extruded clay. (See Fig. 11. CAREY, J. (2008) 'Untitled (Clay)' p. 85 and Fig. 12. CAREY, J. (2008) 'Untitled (Coloured Clay)' p. 86). The extrusion process did not allow for responsive improvisational reactions due to the restrictive nature of the armature. The clay needed an armature due to its inability to explore three-dimensional space because when wet, it could only produce close-knit masses. The extrusion process only produced linear form and could not replicate the variety of different marks in drawing. The sculptures were produced through an additive strategy, which did involve the potential for improvisation, but this was restricted by the armature.

The inability to produce a variety of different forms was also the reason why wire was discounted as a material. The use of wire, though, was able to improve my practice, due to the material's ability to resist gravity and provide a sculptural line to replicate the counter-part in drawing. (See Fig. 13. CAREY, J. (2009) 'Untitled (Wire)' p.91 and Fig. 14. CAREY, J. (2009) 'Untitled (Wire)' p.92)

The potential of expanding foam was also tested. Although foam had the ability to create a variety of forms, like clay there were restrictions in the material's ability to operate spatially. (See Fig. 15. CAREY, J. (2009) 'Untitled (Expanded

Foam)' p. 97, Fig. 16. CAREY, J. (2009) 'Untitled (Expanded Foam)' p.98 and Fig. 17. CAREY, J. (2009) 'Untitled (Restricted Foam)' p.100). The main reason it proved to be inappropriate was the lack of control of the finished form, due to its expansion. This expansion did produce an added an element of unpredictability, which overrode the reflective considered act of improvisation. It did, however, allow for the use of gestural movements that could be associated with drawing and connect to Locke's work. It also enabled my practice to use an additive strategy, which both Locke and Cooper use. The use of expanded foam allowed for some improvisation, but this was inhibited by the material's expansion.

An additive strategy was also employed in the creation of sculptures made from the third material explored that was aluminium foil. These works were constructed through an approach that could be described as a form of violent origami*, which transformed the aluminium sheet into three-dimensional form. (See Fig. 18. CAREY, J. (2009) 'Untitled (Aluminium Foil)' p.104 and Fig. 19. CAREY, J. (2009) 'Untitled (Aluminium Foil Coloured)' .p105). Using aluminium foil, the potential of the improvisational strategy of addition was fulfilled. This additive strategy allowed for the material to mutate into sculptural form. Mutation is employed as an improvisational strategy in Cooper's practice. There was a problem with the foil, though, because it had a tendency to produce strings of connected forms, which resulted in a linear bias. The bias impaired the material's ability to allow for improvisation, whether in basic forms or their potential position.

The use of clear casting resin, in conjunction with moulding techniques, was the fourth material to be tested. (See Fig. 24. CAREY, J. (2010) 'Untitled (Resin)' p.112, Fig. 25. CAREY, J. (2010) 'Untitled (Resin Blocks)' p. 112, Fig. 28. CAREY, J. (2010) 'Untitled (Resin Combination)' p. 115, Fig. 29. CAREY, J. (2010) 'Untitled (Combination)' p. 116 and Fig. 30. CAREY, J. (2010) 'Untitled (Organic Mould)' p. 118). Whilst using the moulding technique, the research became somewhat sidetracked. The secondary question, "what material could construct a three-dimensional environment that allows for a mark to exist in isolation?" became temporally more dominant. Although the use of resin did develop my practice, with the use of a moulding technique, my investigation focused on constructing solidified space, rather than on the potential of producing an improvisational practice. The solidified space enabled by clear resin did have a certain amount of sculptural presence as a block of 'frozen' space both solid yet transparent. (See Fig. 40. CAREY, J. (2011) 'Untitled (Crystal Resin)' p.128, Fig. 41. CAREY, J. (2011) 'Untitled (Crystal Resin 2)' p.129, Fig. 42. CAREY, J. (2011) 'Untitled (Void)' p. 131, Fig. 43 CAREY, J. (2011) 'Untitled (Elongated)' p. 132, Fig. 44. CAREY, J. (2011) 'Untitled (Inclusion Test)' p. 134, Fig. 45. CAREY, J. (2010) 'Untitled (Coloured Clay)' p. 135, Fig. 46. CAREY, J. (2012) 'Untitled (Resin With No Inclusions)' p. 138 and Fig. 47. CAREY, J. (2012) Untitled (Resin With No Inclusions 2) p. 139). The final version of the moulding technique, however, did contain strategies from both Locke and Cooper's practices. The improvisational strategy of addition was appropriated from Locke's and Cooper's practices. The improvisational strategy of mutation, which Cooper uses, was also incorporated into my practice. This developed had the implication of improving my practice due to the opportunity to

use these improvisational strategies whilst using a moulding technique in the construction of concrete sculptures. (See Fig. 48 CAREY, J. (2012) 'Concrete 1' p. 142, Fig. 49 'Concrete 2' p. 143, Fig. 50 'Concrete 3' p. 145, Fig. 51. 'Concrete 4' p. 146, Fig. 52. 'Concrete 5' p. 147, Fig. 53. 'Concrete 6' p. 149, Fig. 54. 'Concrete 7' p. 151, Fig. 55. 'Concrete 8' p.152 and Fig. 56. 'Concrete 9' p. 153).

The final form of the main question was, " what are the implications, and opportunities, of transferring the improvisational potential of drawing, to a sculptural practice, using Diana Cooper and Hew Locke's practices (2000-2004), as precedents?" The implication of transferring the potential of improvisational strategies, to my practice, is that it provides the freedom for the process of form construction to evolve. This freedom gave the opportunity to use improvisational strategies in the construction of my sculptures. Part of this strategy enabled an improvement of my practice, by using a moulding technique. Using this technique has given the opportunity for moulding to become more than just a repetitive process, which produces perfectly reproduced forms. The implication of this for my practice of using flexible, and adaptive strategies, which utilized a reflective form of improvisation.

The *sub*-questions; "what potential strategies of drawing could be transferred to the three-dimensional realm of sculpture?" and; "is it possible to transfer the strategies associated with the freedom of hand, which allow improvisation in drawing, to a sculptural practice?" evolved because of the focus on Locke and Cooper's work. These questions evolved into; "what process, or technique, would

allow for improvisational strategies, which are exemplified by Locke and Cooper's expanded notion of drawing, to be replicated in a sculptural practice?" This *sub*-question, and the *sub*-question, "what materials could be used in a process, or technique which would allow for improvisational strategies, in a sculptural practice?" were instrumental in the development of the final practice. These allowed for the investigation to identify the improvisational strategies of addition and mutation in Locke's and Cooper's work. Once these strategies were identified, techniques and materials were explored, which could use their potential. Through this exploration, the main research developed a flexible, adaptive moulding technique, for use in my practice. The technique used the improvisational strategies, and had the potential to improve my practice. The use of this moulding technique provided a positive research outcome to the *sub*-question, "is it possible to develop a moulding technique that allows for responsive, improvisational alteration?" The flexibility of the additive mould system allowed for changes to be made to the mould's form and thus could be altered in a responsive, improvisational way.

The *sub*-question; "as the moulding technique produces improvised three-dimensional mark-forms are the inclusions then necessary?" the answer was negative. As the mark-form is generated by a responsive, improvised technique the inclusions became unnecessary. This conclusion, however, did affect *sub*-question; "what material could construct a three-dimensional environment, which allows for a mark to exist in isolation?" The clear casting resin gave the mark the opportunity to in this way, but with the concept of the moulded block as a mark-form, the

construction of an environment was discarded as unimportant. Although the clear resin gave the appearance of solidifying space, this cannot be achieved, without the use of resin, although, a similar type of positioning could be produced by fabricating multi-part constructions.

The last *sub*-question, "as the inclusions are unnecessary, what other materials could be used in conjunction with the moulding technique?" is a question, which has not been completely answered. The one other material besides the resin, which worked for my research, was concrete. (Although during the write-up period a thermo-plastic called Polymorph was indentified as a potential material. See Fig. 57. CAREY, J. (2013) 'Polymorph 1'. p. 156). This question needs further investigation as there are many potential materials that could be used.

Overall, the research improved my practice introducing an improvisational approach based on tacit knowledge, which used strategies from Locke and Cooper's expanded notion of drawing. It is this notion of drawing, which potentially allows for three-dimensionality, what opened up the opportunity to explore the use of its associated strategies within my practice. This also allowed the development of the concept of the sculptural three-dimensional form as a three-dimensional mark, or mark-form. These mark-forms were conceived as having the ability to explore and grow, through an additive strategy into three-dimensional space. It also gave the opportunity to use an approach where the final form was built-up, whilst having the potential to alter during the creative process similar to how marks form an image on a surface in drawing. The implication of

this was that it showed that an improvisational approach could be used to improve my practice. The research process gave the opportunity for a more flexible approach to form construction, whilst utilizing the improvisational strategies of addition and mutation. Additionally the research gave the opportunity to improvise and adapt, whilst using a moulding technique. The implications and opportunities produced by the research are embodied within the final sculptures, (See Fig. 48 CAREY, J. (2012) 'Concrete 1' p. 142, Fig. 49 'Concrete 2' p. 143, Fig. 50 'Concrete 3' p. 145, Fig. 51. 'Concrete 4' p. 146, Fig. 52. 'Concrete 5' p. 147, Fig. 53. 'Concrete 6' p. 149, Fig. 54. 'Concrete 7' p. 151, Fig. 55. 'Concrete 8' p. 152 and Fig. 56. 'Concrete 9' p. 153), and the strategies provide a continuing methodology in my practice. The final works demonstrate that strategies associated with drawing can improve a sculptural practice. To conclude, the sculptures were constructed by improvisational strategies from Locke's and Cooper's expanded notion of drawing, utilizing the creative responses informed by tacit knowledge in their production.

My practice could evolve by further improvements to the improvisational strategies. Additional research could look into how and why improvisation operates in terms of producing more flexibility in my practice. There also could be further investigation into the materials to use, and how they might be able to increase the potential for improvisational. The curatorial process for displaying this kind of sculpture also needs further investigation in terms of positioning using an improvisational method and the potential to construct installations with the sculptures as installation elements. Due to these potential avenues for further research, my practice has the potential to expand and evolve, within the expanded

area of drawing and sculpture today. This potential evolution is embodied in what Anna Lovatt calls the 'post-medium era'. (Lovatt, A. 2012). This allows for the cross-pollination of techniques, ideas and strategies between different artistic mediums. It is this cross-pollination that opened up the opportunity for the transference of the improvisational strategies from Locke and Cooper's expanded notion of drawing. Transferring these strategies enabled the evolution of a process-based approach to my sculptural practice. Using this approach gave the freedom to construct artwork without a pre-determined plan, whilst utilizing these improvisational strategies. This allowed for the formation of an immersive practice where the process was just as important as its final product. The immersive practice's concentration on process enabled the evolution of my sculptural practice through the cross-pollination of strategies between drawing and sculpture that could be seen as an example of the freedom created by this 'post-medium era'. (Lovatt. A. 2012).

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Glossary

- Addition: An artistic process which adds new elements to an emerging art artifact
- Additive moulding system: A moulding technique which can alter, or enlarge through a process of addition
- Accumulation: An additive artistic process which collects elements over time
- Architectural interventions: How Monika Gzrymala describes her installations
- Blueprint: A step-by-step guide produced by Diana Cooper during the construction of her artwork
- Cast: To form into a particular shape, by pouring liquid metal or other material into a mould; to fashion; to found; as, to cast bells, stoves. bullets[109]
- Casting: The act or process of making casts or impressions, or of shaping metal or plaster in a mould; the act or the process of pouring molten metal into a mould[110]

[109] *Accurate & Reliable Dictionary* [Online] Available from: http://www.ardictionary.com/Cast/2341 [Accessed on 06/07/14]

[110] *Accurate & Reliable Dictionary* [Online} Available from: http://www.ardictionary.com/Casting [Accessed on 06/07/14]

- Connected marks: Marks which have a physical connection to one another
- Construction: An artistic process of building, or making, an art artifact
- Drawing: The fundamental pictorial act. To make a mark, or trace a line upon a surface, (which), immediately transforms that surface, energizes its neutrality; the graphic imposition turns the flatness of the ground into virtual space, translates its material reality into the fiction of the imagination.[111]
- Drawings expanded field: The field of contemporary drawing practice that has expanded beyond the traditional view of the discipline by incorporating elements from other artistic practices
- Expanded notion of drawing: The idea, or belief, that contemporary drawing practice has expanded beyond the traditional view of the discipline by incorporating elements from other artistic practices
- Existing line: A three-dimensional material, which is linear in form, which could be conceived as, the sculptural equivalent of the line in drawing
- Flexible, additive moulding technique: An additive moulding technique, which has the flexibility within the process, to adapt and react during mould enlargement

[111] ROSAND, D (2002) *Drawing Acts: Studies in Graphic Expression.* Cambridge. Cambridge University Press. p1

- Form: The shape or appearance of something[112]
- Hybrid (Visual): How Diana Cooper describes her artwork which uses elements from drawing
- *Hyper*-drawing: A category of drawing which are "above, over, beyond the limits, outside, excess, exaggeration" of the *sub*-boundary of drawing. These drawings encompass the *sub*-boundaries and the space between them. They are ambiguous in terms of their definition, which means they are categorized in terms of what they are not, rather than what they are. (This category is sometimes referred to as *supra*-drawing) (Marshall, R and Sawdon, P. 2012)
- Improvisation: A performance that an actor, musician, etc, has not practiced or planned[113]
- Inclusion: A person or thing that is included within the whole[114] In this thesis the word is used for different materials which were added to the resin

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[112] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/form_4 [Accessed on 30/06/14]

[113] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/british/improvisation?q=improvisation [Accessed on 30/06/14]

[114] *Oxford Dictionaries* [Online] Available from: http://www.oxforddictionaries.com/definition/english/inclusion?q=inclusion [Accessed on 06/07/14]

- Installation: A form of modern sculpture where the artist uses sound, movement, or space as well as objects in order to make an often temporary work of art[115]
- Layering: To arrange something in layers[116] In this thesis layering is a process where separate layers of materials are added, one on top of another.
- Linear: Consisting of or to do with lines[117]

  : Of, or pertaining to the characteristics of a work of art in which forms and rhythms are defined chiefly in terms of line[118]
- Linearity: The property, quality, or state of being[119]
- Mark: A visible impression or trace on something, as a line, cut, dent, stain, or bruise[120]

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[115] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/installation_4 [Accessed on 30/06/14]

[116] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/layer_3?q=layering [Accessed on 30/06/14]

[117] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/linear_1?q=linear [Accessed on 30/06/14]

[118] *Dictionary.com* [Online] Available from: http://www.dictionary.reference.com/browse/linear

[119] *Dictionary.com* [Online] Available from: http://www.dictionary.reference.com/browse/linearity

[120] *Dictionary.com* [Online] Available from: http://www.dictionary.reference.com/browse/mark [Accessed on 30/06/14]

- Mark-form: A three-dimensional form which could be conceived as the sculptural equivalent of the mark in drawing
- Mark-form layer: A layer of material, which is a complete mark-form, within a set of mark-forms, or complete sculpture
- Medium: Can refer to both to the type of art, (e.g. painting, sculpture, printmaking), as well as materials an artwork is made from[121]
- Mould: A hollow container with a particular shape into which soft or liquid substances are poured, so that when the substance becomes hard it takes the shape of the container[122]
- Moulding: The act or process of shaping in or on a mould, or of making a mould; the art or occupation of a moulder[123]
- Mutation: An artistic process which makes permanent changes to the structure, or material of the art artifact, or elements within the art artifact
- Polymorph: A brand name of a type of thermoplastic
- Pop Art: A type of modern art that started in the 1960's and uses images and objects from ordinary life[124]

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[121] *Glossary of Art Terms/ Tate* [Online] Available from: http://www.tate.org.uk/learn/onlinr-resources/glossary/m/medium [Accessed on 30/06/14]

[122] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/mould_2 [Accessed on 30/06/14]

[123] *Accurate & Reliable Dictionary* [Online] Avaialble from: http://www.ardictionary.com/Moulding/6104 [Accessed on 06/07/14]

- Ready-made marks: Three-dimensional objects, or materials, which could be conceived as, the sculptural equivalent of a mark in drawing
- Reflection: Serious and careful thought[125]
- Relief: A relief is a wall-mounted sculpture in which the three-dimensional elements are raised from a flat base[126]
- Repetition: An artistic process that repeats the same action
- Sculpture: On a fundamental level, sculpture can be defined as a three-dimensional object, a volumetric form possessing measurable height, width and depth and occupying real space.[127]
- Solidified space: A clear resin block, which could be conceived as, solid three-dimensional space
- Solidified space armature: A clear resin block, which could be conceived as, solid three-dimensional space, whilst acting as a transparent armature for various inclusions within
- Strategies (Artistic): A type of planned approach to certain artistic processes or techniques

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[124] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/pop-art?q=pop+art [Accessed on 30/06/14]

[125] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/reflection_3 [Accessed on 30/06/14]

[126] *Glossary of Art Terms/ Tate* [Online] Available from: http://www.tate.org.uk/learn/online-resources/glossary/r [Accessed on 30/06/14]

[127] FINKELSTION, C. *Sculpture.* [Online] Available from: http://www.sculpture.org/documents/curriculum/essay.html [Accessed on 05/03/13]

- Strings of forms/ marks: A set of forms, or marks, which have physical connections that are linear in form
- *Sub*-drawing: A category of drawing which are "under, below, beneath" the *sub*-boundary of drawing. This *sub*-boundary categorizes drawing practice as a performative discipline which visualizes thought processes through the representation of experience, not appearance or perception (Marshall, R and Sawdon, P 2012)
- Subtraction: An artistic process of removing elements from the art artifact
- *Supra*-drawing: See *hyper*- drawing
- Tacit: Understood without being expressed directly[128]
- Tacit-based approach: An approach based upon tacit knowledge
- Tacit-based knowledge: New knowledge that is based on tacit knowledge but extends beyond what was learnt through tacit knowledge
- Tacit knowledge: Knowledge that you do not get from being taught. Or from books etc, for example when working in a particular organization[129]
- Tape (Cellulose) mould: A mould made of cellulose tape

[128] *Cambridge Dictionaries Online.* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/tacit?q=tacit [Accessed on 30/06/14]

[129] *Cambridge Dictionaries Online* [Online] Available from: http://www.dictionary.cambridge.org/dictionary/british/tacit-knowledge?q=tacit+knowledge [Accessed on 30/06/14]

- Thermoplastic: Denoting substances (especially synthetic resin that become plastic on heating and harden on cooling, and are able to repeat these processes)[130]
- Three-dimensional drawings: Drawings which contain three-dimensional elements
- Three-dimensional marks: Three-dimensional forms, which could be conceived as, the sculptural equivalent of the mark in drawing
- Three-dimensional mark-making: The making of three-dimensional forms, which could be conceived as, marks in drawing
- Used line: How Monika Grzymala describes three-dimensional materials, which is linear in form, which could be conceived as, the sculptural equivalent of the line in drawing, which she uses in her practice
- Violent origami: A process of manipulating a sheet of aluminium foil by folding, bending, bashing and crushing the material

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[130] *Oxford Dictionaries* [Online] Available from: http://www.oxforddictionaries.com/definition/english/thermoplastic [Accessed on 30/06/14]

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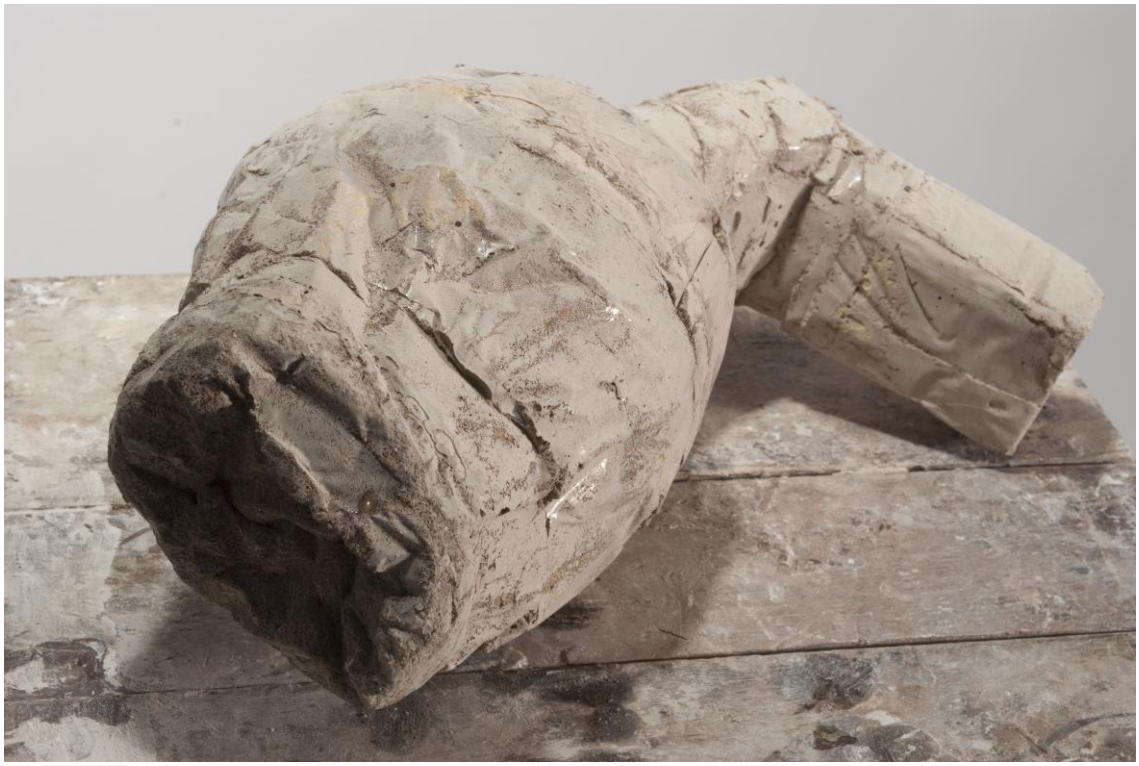
APPENDIX

i) CAREY, J. (2012) Concrete 1 on Banker



ii) CAREY, J. (2012) Concrete 1 (34cm x 22cm x 14cm)

iii) CAREY, J. (2012) Concrete 1 (34cm x 22cm x 14cm)

iv) CAREY, J. (2012) Concrete 2 on Banker

v) CAREY, J. (2012) Concrete 2 (83cm x 30cm x 27cm)

vi) CAREY, J. (2012) Concrete 2 (83cm x 30cm x 27cm)

vii) CAREY, J. (2012) Concrete 3 on Banker

viii) CAREY, J. (2012) Concrete 3 (34cm x 36cm x 89cm)

ix) CAREY, J. (2012) Concrete 3 (34cm x 36cm x 89cm)

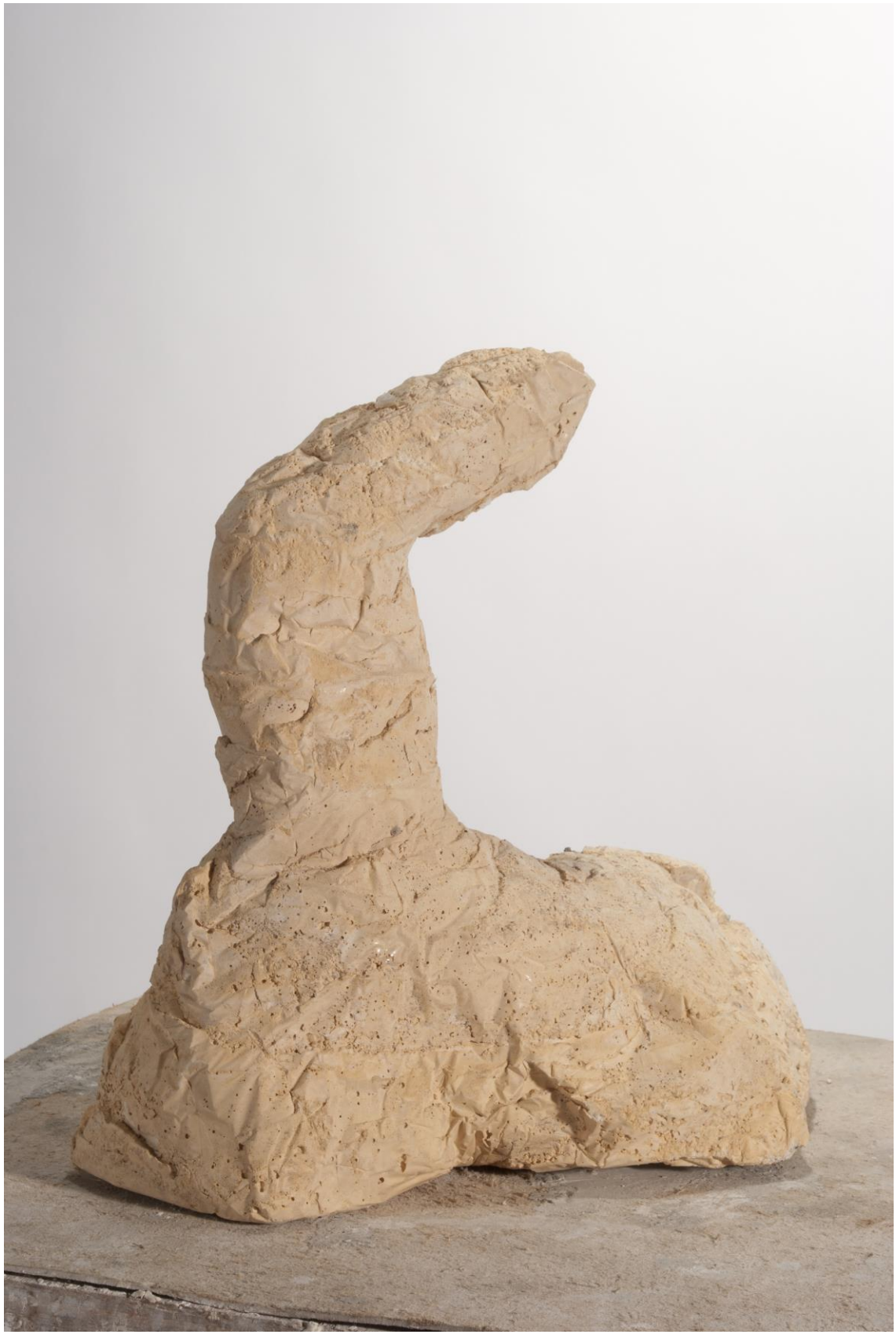
x) CAREY, J. (2012) Concrete 4 on Banker

xi) CAREY, J. (2012) Concrete 4 (47cm x 19cm x 80cm)

xii) CAREY, J. (2012) Concrete 4 (47cm x 19cm x 80cm)

xiii) CAREY, J. (2012) Concrete 5 on Banker

xiv) CAREY, J. (2012) Concrete 5 (57cm x 37cm x 69cm)



xv) CAREY, J. (2012) Concrete 5 (57cm x 37cm x 69cm)

xvi) CAREY, J. (2012) Concrete 6 on Banker

xvii) Concrete 6 (30/07/12) (91cm x 27cm x 57cm)

xviii) CAREY, J. (2012) Concrete 6 (19cm x 27cm x 57cm)

xix) CAREY, J. (2012) Concrete 7 on Banker

xx) CAREY, J. (2012) Concrete 7 (73cm x 67cm x 87cm)

xxi) CAREY, J. (2012) Concrete 7 (73cm x 67cm x 87cm)

xxii) CAREY, J. (2012) Concrete 8 on Banker

xxiii) CAREY, J. (2012) Concrete 8 (47cm x 58cm x 61cm)

xxiv) CAREY, J. (2012) Concrete 8 (47cm x 58cm x 61cm)

xxv) CAREY, J. (2012) Concrete 9 on Banker

xxvi) CAREY, J. (2012) Concrete 9 (63cm x 36cm x 35cm)

xxvii) CAREY, J. (2012) Concrete 9 (63cm x 36cm x 35cm)